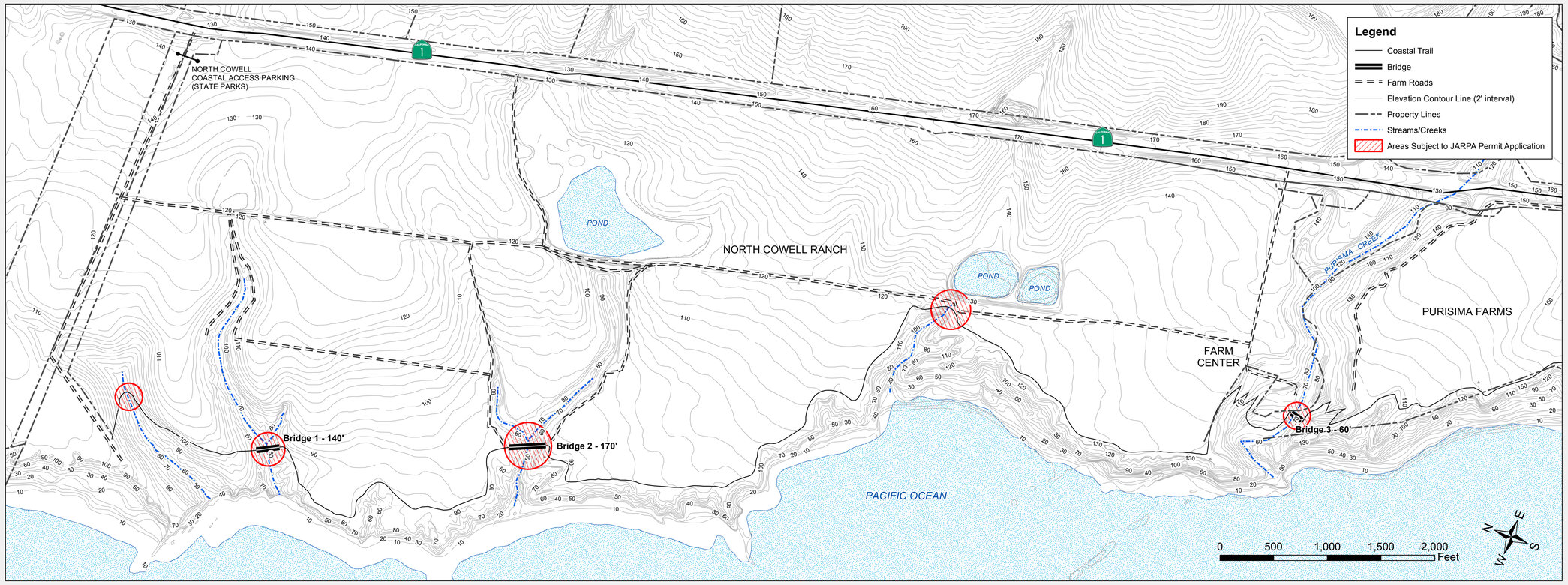
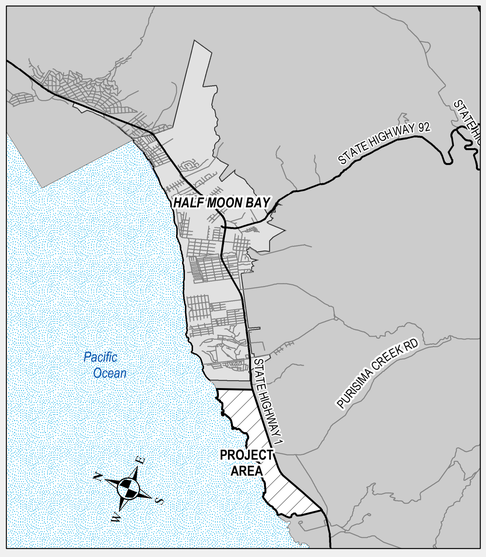
Cowell-Purisima Coastal Trail
PROJECT PLAN

CONSTRUCTION STAGING MAP



VICINITY MAP



PROJECT DIRECTORY

PROPERTY OWNERS:
Giusti Family LLC
2475 Cabrillo Highway
Half Moon Bay, CA 94019
(650) 726-9221
CONTACT: John Giusti

Peninsula Open Space Trust (POST)
3000 Sand Hill Rd. #4-135
Menlo Park, CA 94025
(650) 854-7696 x111 (ph) / (650) 854-7703 (fax)
CONTACT: Paul Ringgold, Dir. of Stewardship

LEAD CONSULTANT:
LandPeople, landscape architects & planners
511 First St.
Benicia, CA 94510
(707) 746-1948 (ph) / (707) 746-7269 (fax)
CONTACT: Randy Anderson, Owner & Principal

CIVIL & STRUCTURAL ENGINEER:
Jakaby Engineering
307 Orchard City Dr. #107
Campbell, CA 95008
(408) 374-6149 (ph) / (408) 489-8231 (fax)
CONTACT: Tom Jakaby, SE

ENGINEERING GEOLOGIST:
Timothy C. Best, CEG
1002 Columbia St.
Santa Cruz, CA 95060
CONTACT: Tim Best
(831) 425-5832 (ph) / (831) 425-5830 (fax)

GEOTECHNICAL ENGINEER:
Butano Geotechnical Engineering, Inc.
6 Hangar Way, Suite C
Watsonville, CA 95076
(831) 724-2612 (ph)
CONTACT: Greg Bloom

BIOLOGIST:
Biotic Resources Group
2551 S Rodeo Gulch Rd
Soquel, CA 95073
(831) 476-4803 (ph) / (831) 476-8038 (fax)

ARCHEOLOGIST:
Holman & Associates
3615 Folsom Street
San Francisco, CA 94110
(415) 550-7286
CONTACT: Miley Holman

SHEET INDEX

DATA SOURCES

Maps and plans in this plan set have been created using GIS data from the following sources:
San Mateo County*
Survey by Arcturus Surveying (Woodside, CA)
Photogrammetry by Aero-Geodetic Corporation
U.S. Census Bureau, TIGER files
U.S.G.S.

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** San Mateo County GIS data is not a survey product. The information is derived from San Mateo County GIS Databases. San Mateo County does not assume any liability for damages arising from errors, ommisions, or use of this data. Users of this data are advised to be aware of the locational accuracy, compilation dates, compilation methods, and cartographic format. Users are advised to use this data appropriately.*

PLANS PREPARED UNDER THE DIRECTION OF:

, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

LandPeople
landscape architects & planners
511 First Street
Benicia, CA 94510
707.746.1948 phone
707.746.7269 fax
w w w . l a n d p e o p l e . n e t

Client:
California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:
Cowell-Purisima Coastal Trail

Half Moon Bay, California

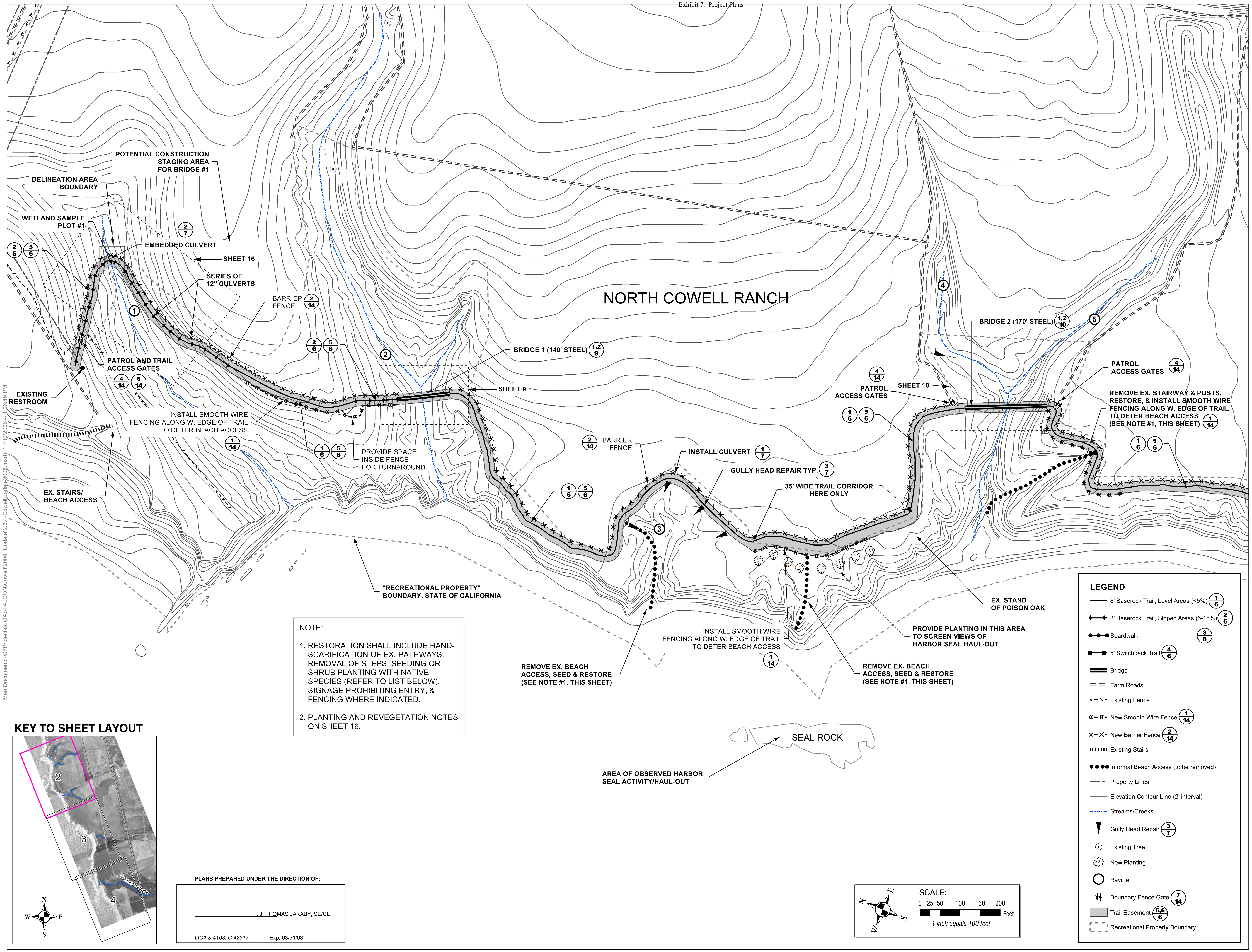
Sheet:
TITLE SHEET

DATE:
November 28, 2006

DRAWN BY:
IE

CHECKED BY:
RA

REVISIONS:
January 9, 2008



NOTE:

1. RESTORATION SHALL INCLUDE HAND-SCARIFICATION OF EX. PATHWAYS, REMOVAL OF STEPS, SEEDING OR SHRUB PLANTING WITH NATIVE SPECIES (REFER TO LIST BELOW), SIGNAGE PROHIBITING ENTRY, & FENCING WHERE INDICATED.
2. PLANTING AND REVEGETATION NOTES ON SHEET 16.

LEGEND

- 8' Baserock Trail, Level Areas (<5%) (1/6)
- 8' Baserock Trail, Sloped Areas (5-15%) (2/6)
- Boardwalk (3/6)
- 5' Switchback Trail (4/6)
- Bridge
- Farm Roads
- Existing Fence
- New Smooth Wire Fence (1/14)
- New Barrier Fence (2/14)
- Existing Stairs
- Informal Beach Access (to be removed)
- Property Lines
- Elevation Contour Line (2' interval)
- Streams/Creeks
- Gully Head Repair (3/7)
- Existing Tree
- New Planting
- Ravine
- Boundary Fence Gate (7/14)
- Trail Easement (5,6/6)
- Recreational Property Boundary

PLANS PREPARED UNDER THE DIRECTION OF:

__________________, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

LandPeople
landscape architects & planners
511 First Street
Benicia, CA 94510
707.746.1948 phone
707.746.7269 fax
www.landpeople.net

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

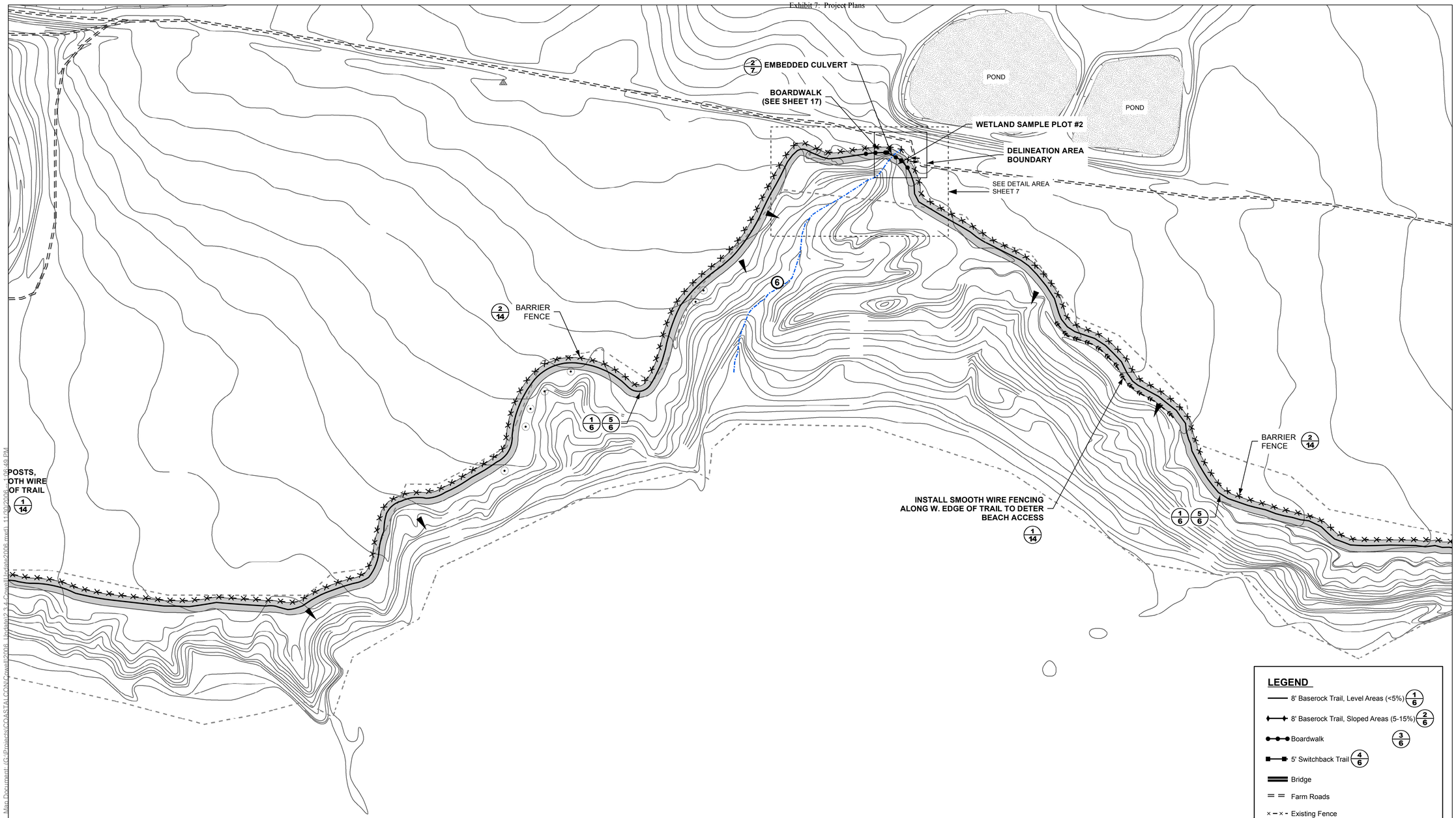
NORTH COWELL RANCH TRAIL ALIGNMENT (N)

DATE: December 7, 2006

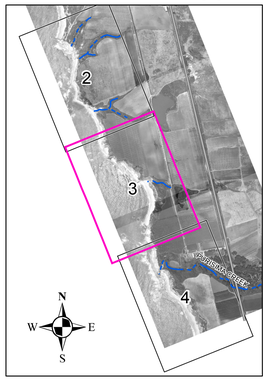
DRAWN BY: IE

CHECKED BY: RA

REVISIONS: January 9, 2008



KEY TO SHEET LAYOUT



PLANS PREPARED UNDER THE DIRECTION OF:

_____, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

N W E S

SCALE:
0 25 50 100 150 200 Feet
1 inch equals 100 feet

LEGEND

- 8' Baserock Trail, Level Areas (<5%) 1/6
- 8' Baserock Trail, Sloped Areas (5-15%) 2/6
- Boardwalk 3/6
- 5' Switchback Trail 4/6
- Bridge
- Farm Roads
- Existing Fence
- New Smooth Wire Fence 1/14
- New Barrier Fence 2/14
- Existing Stairs
- Informal Beach Access (to be removed)
- Property Lines
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- Streams/Creeks
- Gully Head Repair 3/7
- Existing Tree
- New Planting
- Ravine
- Boundary Fence Gate 7/14
- Trail Easement 5,6/6
- Recreational Property Boundary

LandPeople
landscape architects & planners

511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax

w w w . l a n d p e o p l e . n e t

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

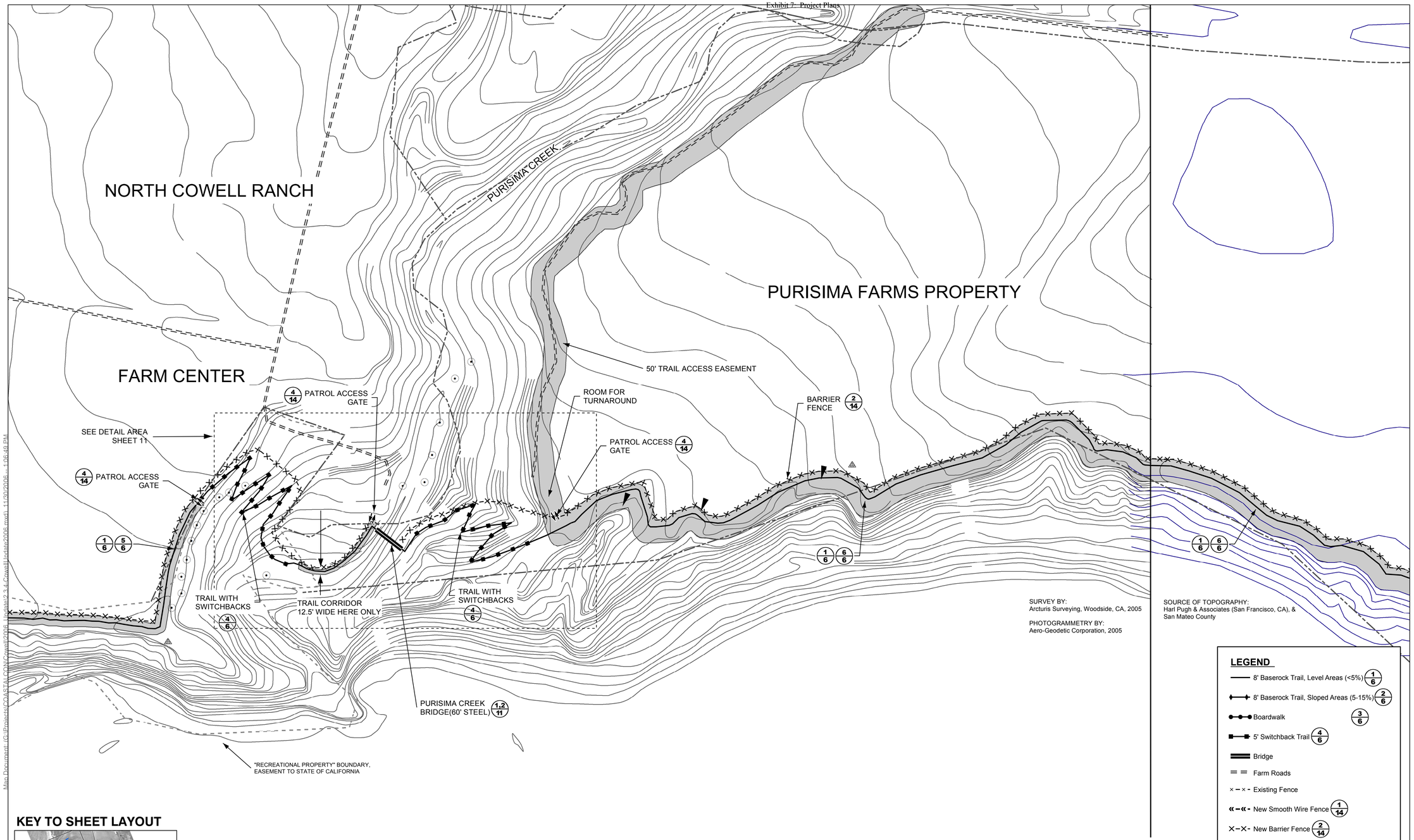
NORTH COWELL RANCH TRAIL ALIGNMENT (CENTRAL)

DATE:
December 7, 2006

DRAWN BY:
IE

CHECKED BY:
RA

REVISIONS:
January 9, 2008

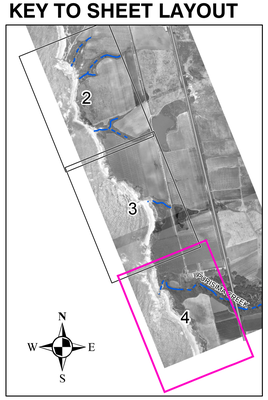


SURVEY BY:
Arcturis Surveying, Woodside, CA, 2005

PHOTOGRAMMETRY BY:
Aero-Geodetic Corporation, 2005

SOURCE OF TOPOGRAPHY:
Harl Pugh & Associates (San Francisco, CA), & San Mateo County

KEY TO SHEET LAYOUT



PLANS PREPARED UNDER THE DIRECTION OF:

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LIC# S 4168, C 42317 Exp. 03/31/08

SCALE:
0 25 50 100 150 200 Feet
1 inch equals 100 feet

LEGEND

- 8' Baserock Trail, Level Areas (<5%) 1/6
- 8' Baserock Trail, Sloped Areas (5-15%) 2/6
- Boardwalk 3/6
- 5' Switchback Trail 4/6
- Bridge
- Farm Roads
- Existing Fence
- New Smooth Wire Fence 1/14
- New Barrier Fence 2/14
- Existing Stairs
- Informal Beach Access (to be removed)
- Property Lines
- Elevation Contour Line (2' interval)
- Streams/Creeks
- Gully Head Repair 3/7
- Existing Tree
- New Planting
- Ravine
- Boundary Fence Gate 7/14
- Trail Easement 5,6/6
- Recreational Property Boundary

LandPeople
landscape architects & planners

511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax

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Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

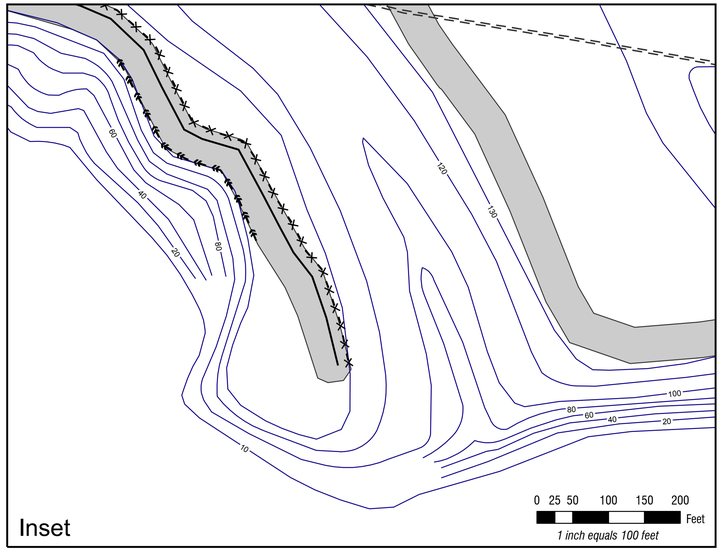
NORTH COWELL RANCH TRAIL ALIGNMENT (S) & PURISIMA FARMS(N)

DATE:
December 7, 2006

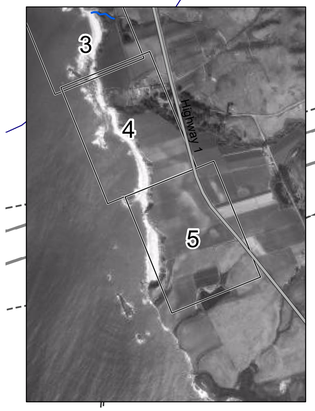
DRAWN BY:
IE

CHECKED BY:
RA

REVISIONS:
January 9, 2008



KEY TO SHEET LAYOUT



SHEET 13

17-CAR STAGING AREA

5,000 GALLON WATER TANK

EX. DRAINAGE SWALE

25' SETBACK FROM SWALE (PER CDF&G)

NEW CATTLE WATER LINE

DOUBLE BOUNDARY FENCE GATES (2 TOTAL) 2/15

2/14 BARRIER FENCE

25' TRAIL/ACCESS EASEMENT 'E'

1/6

NEW CATTLE TROUGH

NEW CATTLE WATER LINE

EXISTING UNDERGROUND IRRIGATION LINE

EXISTING UNDERGROUND IRRIGATION LINE

PURISIMA FARMS

DOUBLE BOUNDARY FENCE GATES (4 TOTAL) 1/15

1/6 6/6 50' TRAIL/ACCESS EASEMENT

2/14 BARRIER FENCE

1/6

BARRIER FENCE 2/14

INSTALL SMOOTH WIRE FENCING ALONG W. EDGE OF TRAIL TO DETER BEACH ACCESS 1/14

Trail Ends 200' See Inset

LEGEND

- 8' Baserock Trail, Level Areas (<5%) 1/6
- Farm Roads
- New Smooth Wire Fence 1/14
- New Barrier Fence 2/14
- Elevation Contour Line (10' interval)
- Boundary Fence Gate 7/14
- Trail Easement 6/6
- Existing Drainage Swale
- 25' Setback From Ditch (per CDF&G)

SCALE:
0 25 50 100 150 200 Feet
1 inch equals 100 feet

PLANS PREPARED UNDER THE DIRECTION OF:

_____, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

Map Document: (G:\Projects\COASTALCON\Cowell\2006_Update\5_PurisimaFarmsSouth.mxd) 2/14/2007

LandPeople
landscape architects & planners
511 First Street
Benicia, CA 94510
707.746.1948 phone
707.746.7269 fax
w w w . l a n d p e o p l e . n e t

Client:
California State Coastal Conservancy

1330 Broadway, 11th Floor
Oakland, CA 94612-2530

Project:
Cowell-Purisima Coastal Trail

Half Moon Bay, California

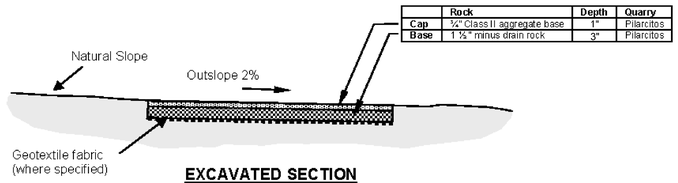
Sheet:
PURISIMA FARMS (SOUTH) TRAIL ALIGNMENT

DATE:
January 30, 2004

DRAWN BY:
IE

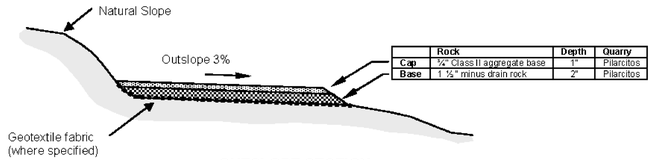
CHECKED BY:
RA

REVISIONS:
January 9, 2008



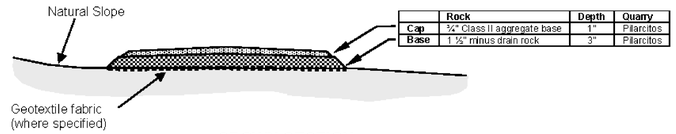
	Rock	Depth	Quarry
Cap	¾" Class II aggregate base	1"	Pilarcitos
Base	1 ½" minus drain rock	3"	Pilarcitos

EXCAVATED SECTION



	Rock	Depth	Quarry
Cap	¾" Class II aggregate base	1"	Pilarcitos
Base	1 ½" minus drain rock	2"	Pilarcitos

OUTSLOPE SECTION



	Rock	Depth	Quarry
Cap	¾" Class II aggregate base	1"	Pilarcitos
Base	1 ½" minus drain rock	3"	Pilarcitos

CROWN SECTION

NOTES
- Subgrade shall be ripped/perforated to a depth of 3" and moisture conditioned as directed by the engineer.
- Spreading shall be performed by methods that will produce a uniform layer, free from pockets of coarse or fine material.
- Road rock shall be adequately compacted/rolled unless otherwise specified.

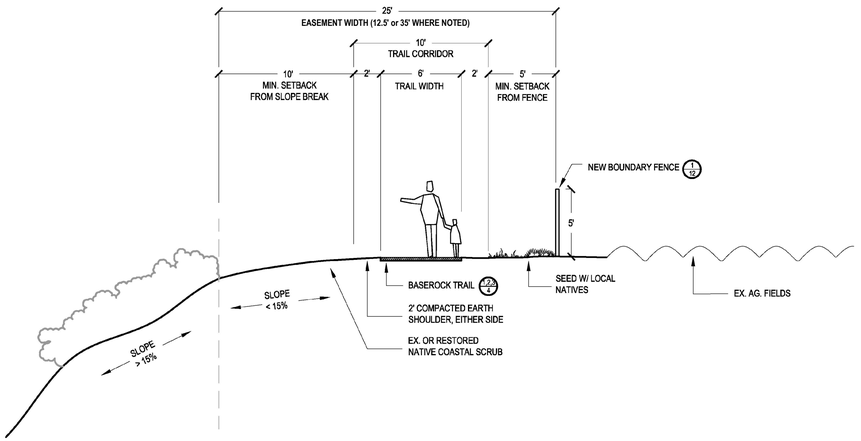
1 8' BASEROCK TRAIL, LEVEL AREAS (<5%)
NOT TO SCALE

NOTES
- Subgrade shall be ripped/perforated to a depth of 3" and moisture conditioned as directed by the engineer.
- Spreading shall be performed by methods that will produce a uniform layer, free from pockets of coarse or fine material.
- Road rock shall be adequately compacted/rolled unless otherwise specified.

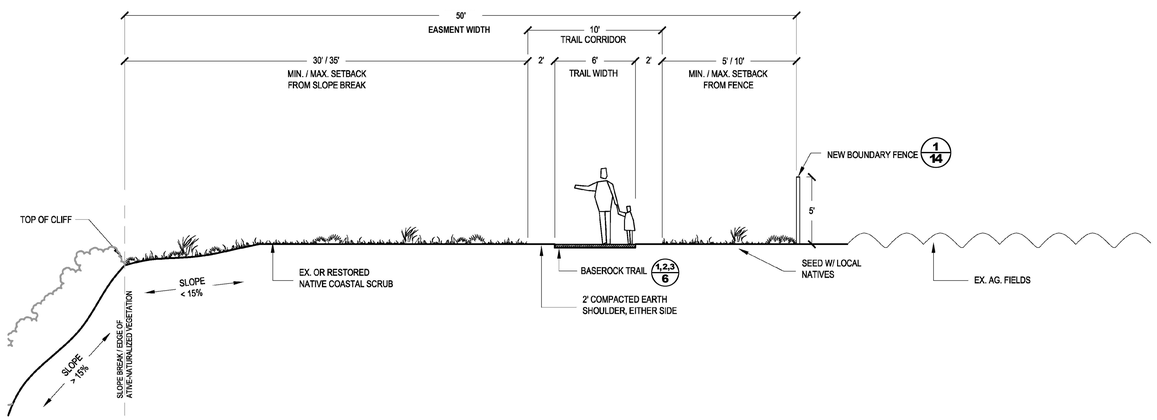
2 8' BASEROCK TRAIL, SLOPED AREAS (5-15%)
NOT TO SCALE

NOTES
- Subgrade shall be ripped/perforated to a depth of 3" and moisture conditioned as directed by the engineer.
- Spreading shall be performed by methods that will produce a uniform layer, free from pockets of coarse or fine material.
- Road rock shall be adequately compacted/rolled unless otherwise specified.

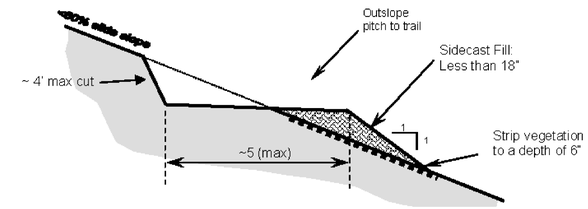
3 8' BASEROCK TRAIL, WET/SOFT SOILS
NOT TO SCALE



5 25' TRAIL EASEMENT
NOT TO SCALE



6 50' TRAIL EASEMENT
NOT TO SCALE



NOTES
- Trail shall be constructed at a maximum width less than 5'
- Trail shall be constructed on balanced cut and fill
- Cuts shall be less than 4' high and inclined no steeper than 0.5:1.
- Areas to receive fill shall be stripped of vegetation to a depth of 6"
- Fill shall be compacted to the extent feasible with equipment on hand (e.g. bucket compacted, rack walked, hand/foot tamped).
- Fill shall be a maximum of 18" thick.
- Fill embankment shall be inclined no steeper than 1:1.
- Exposed soils shall be seeded and straw mulched to prevent fine-grained erosion (See restoration seed mix).

4 5' SWITCHBACK TRAIL
NOT TO SCALE

PLANS PREPARED UNDER THE DIRECTION OF:

, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

TIMOTHY C. BEST, CEG
ENGINEERING GEOLOGY AND HYDROLOGY
1002 Columbia Street, Santa Cruz, CA 95060
(831) 425-5832 (831) 425 5830 fax.

LandPeople
landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax
w w w . l a n d p e o p l e . n e t

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

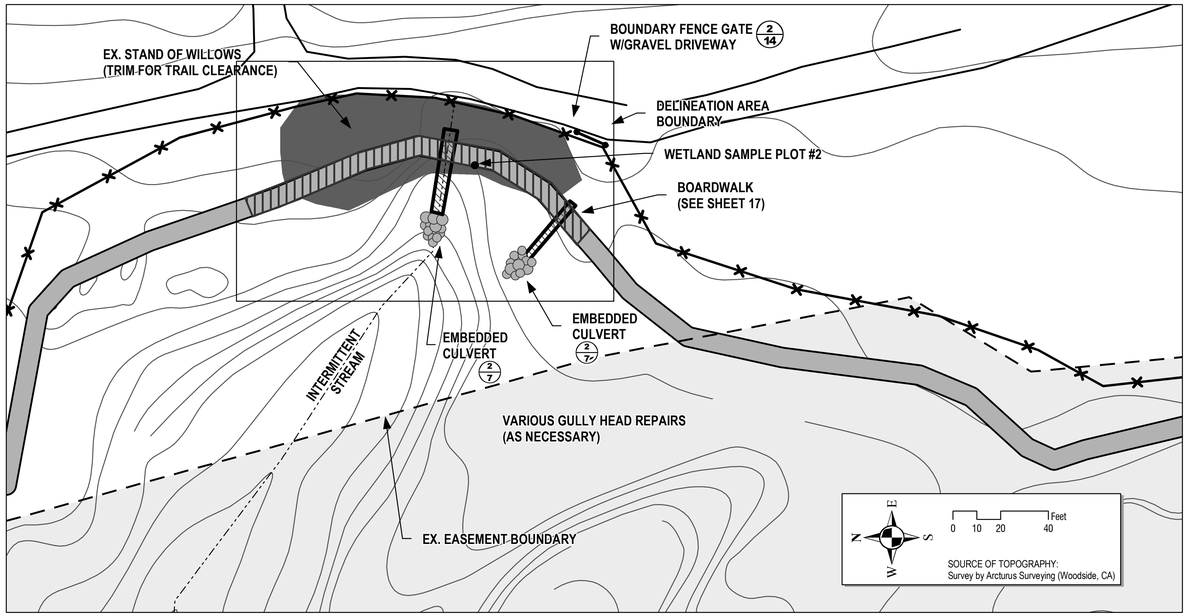
TRAIL CONSTRUCTION NOTES & DETAILS

DATE:
January 30, 2004

DRAWN BY:
IE

CHECKED BY:
RA

REVISIONS:
January 9, 2008



A EROSION REPAIR PLAN
SCALE: 1" = 30' - 0"

PLANS PREPARED UNDER THE DIRECTION OF:

_____, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

TIMOTHY C. BEST, CEG
ENGINEERING GEOLOGY AND HYDROLOGY
1002 Columbia Street, Santa Cruz, CA 95060
(831) 425-5832 (831) 425 5830 fax.

LandPeople
landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

EROSION REPAIRS

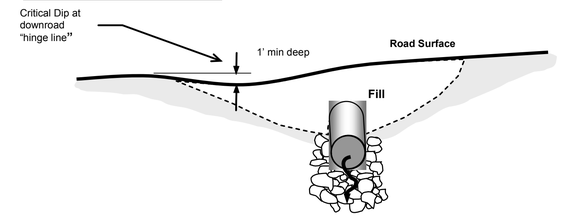
DATE:
January 30, 2004

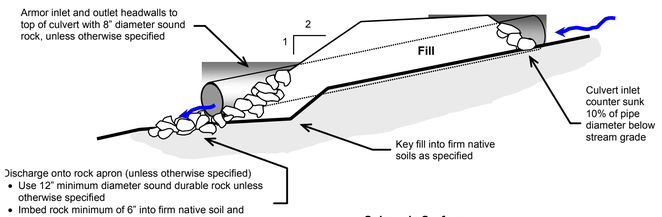
DRAWN BY:
IE

CHECKED BY:
RA

REVISIONS:
January 9, 2008

PERMANENT CULVERT

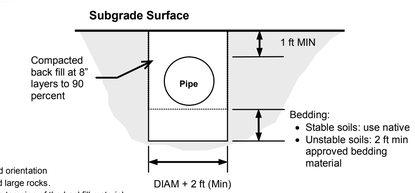




Discharge onto rock apron (unless otherwise specified)
- Use 12" minimum diameter sound durable rock unless otherwise specified
- Imbed rock minimum of 6" into firm native soil and extend downstream 2 times culvert diameter.
- Place rock prior to laying pipe

PIPE SPECIFICATIONS

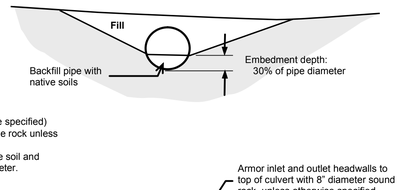
Diameter	Specifications
<= 48"	Smooth bore, double wall ABS Plastic (ADS N-12 or Equivalent)



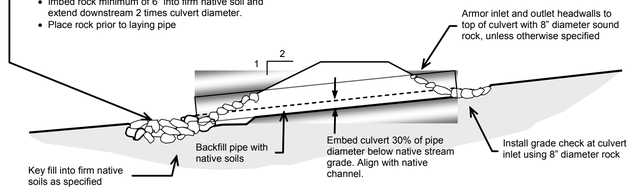
NOTES
- Culverts should be installed at the natural stream level, grade and orientation
- The culvert bed shall be clean and free of large woody debris and large rocks.
- The width of trenches shall permit satisfactory joining and through tamping of the backfill material
- The inlet to the culvert should be a slightly below the streambed so that the water falls into the culvert inlet
- Culverts distorted more than 10% of normal dimension, ruptured or broken shall be replaced
- Fill shall be keyed and bench into firm native soils. Areas to receive fill shall be striped to remove all vegetation, roots, brush, highly organic soils and other unsuitable fill material. Depth of stripping is assumed to be minimum of 6 to 12 inches.
- In areas where expansive subgrade is encountered, the subgrade should be moisture conditioned to between 2 and 4 percent over optimum moisture. These areas will be located in the field by the geotechnical consultant.
- Over-excavation may be required in limited areas to obtain the required compaction. In addition, the use of stabilization fabric (Mirafi 500X or equivalent) may be used to stabilize localized areas. The depth of over-excavation and placement of stabilization fabric should be reviewed by the geotechnical consultant during grading.
- Onsite soils may be reused as engineered fill. Backfill should consist of select structural back fill consisting of 50 percent of the material being retained on the #200 sieve, the fines portion being non-expansive, no rock or cobbles greater than 3 inches in size, and free of organic material. Any imported fill should consist of non-expansive soil. All fill shall be reviewed by the geotechnical consultant 48 hours prior to placement.
- Fill shall be placed in maximum 8 inch thick horizontal lifts and compacted to a minimum of 90 percent per ASTM D 1557. During placement and compaction of fill, the moisture content of the materials being placed shall be maintained.
- Fill shall be brought up to grade at a 2:1 slope unless otherwise specified
- Critical dip shall be installed at the hinge line
- Aggregate baserock should consist of Class II baserock conforming to the latest Caltrans standards. Aggregate baserock should be minimum 6" thick and compacted to a minimum of 95 percent relative compaction.
- On running streams, water will be pumped or diverted past the crossing and into the down stream channel during the construction process.
- Inlet and outlet shall be appropriately armored to protect the fill from the hydrologic energy of the stream.
- Conform to Department of Fish and Game 1600 permit where applicable

1 PERMANENT CULVERT
NOT TO SCALE

EMBEDDED CULVERT

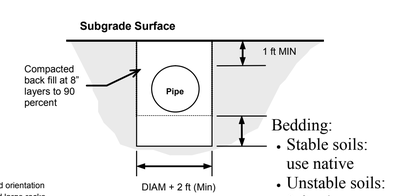


Discharge onto rock apron (unless otherwise specified)
- Use 12" minimum diameter sound durable rock unless otherwise specified
- Imbed rock minimum of 6" into firm native soil and extend downstream 2 times culvert diameter.
- Place rock prior to laying pipe



PIPE SPECIFICATIONS

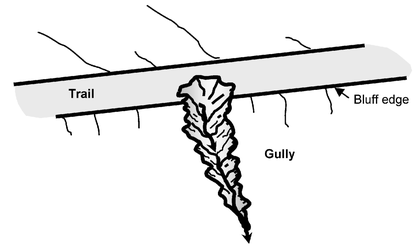
Diameter	Specifications
<= 48"	Smooth bore, double wall ABS Plastic (ADS N-12 or Equivalent)



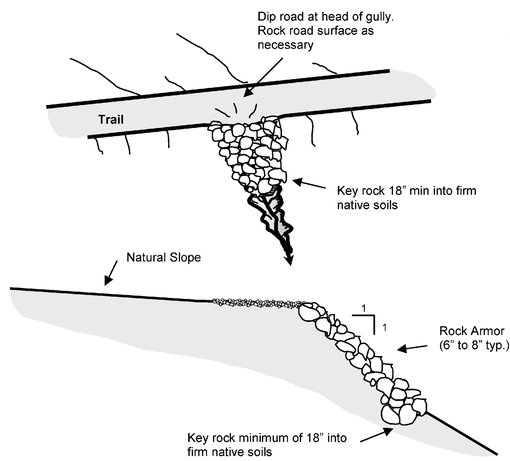
NOTES
- Culverts should be installed at the natural stream level, grade and orientation
- The culvert bed shall be clean and free of large woody debris and large rocks.
- The width of trenches shall permit satisfactory joining and through tamping of the backfill material
- The bottom of the culvert shall be buried (embedded) into the native channel not less than 30% of the culvert diameter and backfilled with appropriate bedding material.
- Culverts distorted more than 10% of normal dimension, ruptured or broken shall be replaced
- Fill shall be keyed and bench into firm native soils. Areas to receive fill shall be striped to remove all vegetation, roots, brush, highly organic soils and other unsuitable fill material. Depth of stripping is assumed to be minimum of 6 to 12 inches.
- In areas where expansive subgrade is encountered, the subgrade should be moisture conditioned to between 2 and 4 percent over optimum moisture. These areas will be located in the field by the geotechnical consultant.
- Over-excavation may be required in limited areas to obtain the required compaction. In addition, the use of stabilization fabric (Mirafi 500X or equivalent) may be used to stabilize localized areas. The depth of over-excavation and placement of stabilization fabric should be reviewed by the geotechnical consultant during grading.
- Onsite soils may be reused as engineered fill. Backfill should consist of select structural back fill consisting of 50 percent of the material being retained on the #200 sieve, the fines portion being non-expansive, no rock or cobbles greater than 3 inches in size, and free of organic material. Any imported fill should consist of non-expansive soil. All fill shall be reviewed by the geotechnical consultant 48 hours prior to placement.
- Fill shall be placed in maximum 8 inch thick horizontal lifts and compacted to a minimum of 90 percent per ASTM D 1557. During placement and compaction of fill, the moisture content of the materials being placed shall be maintained.
- Fill shall be brought up to grade at a 2:1 slope unless otherwise specified
- Critical dip shall be installed at the hinge line
- Aggregate baserock should consist of Class II baserock conforming to the latest Caltrans standards. Aggregate baserock should be minimum 6" thick and compacted to a minimum of 95 percent relative compaction.
- On running streams, water will be pumped or diverted past the crossing and into the down stream channel during the construction process.
- Inlet and outlet shall be appropriately armored to protect the fill from the hydrologic energy of the stream.
- Conform to Department of Fish and Game 1600 permit where applicable

2 EMBEDDED CULVERT
NOT TO SCALE

EXISTING CONDITIONS



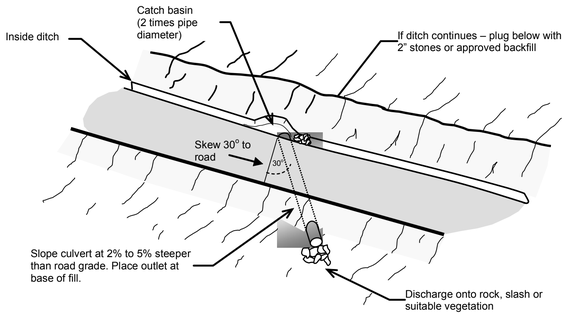
GULLY REPAIR



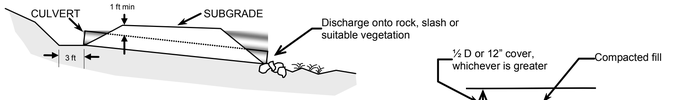
NOTES
- Dip the trail out slightly at the gully head.
- Armor the head of the gully with 6" to 8" diameter sound rock. Key rock a minimum of 18" into firm native soils. The key way shall be several feet wider than the eroded gully scar. The location of the keyway will vary form site to site but generally located 5 to 10 feet downslope of the trail. Armor shall be brought up to grade at a 1:1 slope. Where specified, rock shall be separated from native soils with woven geotextile fabric (Mirifi 500X or equivalent).
- The road surface is rocked 3" deep with 1.5" drain rock.
- Detail is intended as a guideline. Adjustments to the actual conditions and design to be determined in the field.

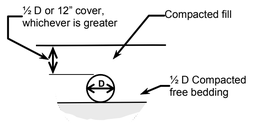
3 GULLY HEAD REPAIR
NOT TO SCALE

DITCH RELIEF CUVLERT

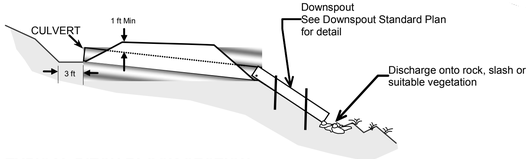


TYPE "A" DITCH RELIEF CULVERT (no downspout)

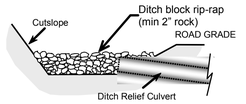




TYPE "B" DITCH RELIEF CULVERT (with downspout)



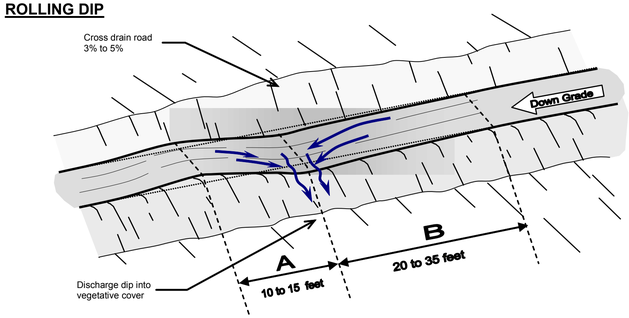
TYPICAL DITCH BLOCK SECTION

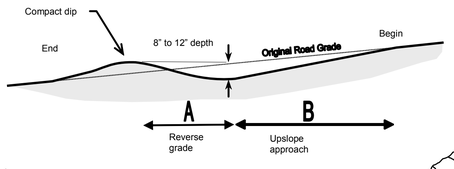


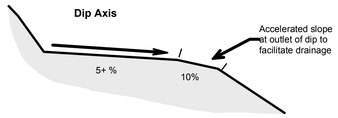
NOTES
- Culverts should extend a minimum of 1' beyond base of road fill, or flume use to carry flow beyond fill.
- Backfill shall be adequately compacted throughout the entire process to 90 percent ASTM 1557 unless otherwise specified.
- Rock, slash or suitable vegetation should be used at discharge point as directed or specified

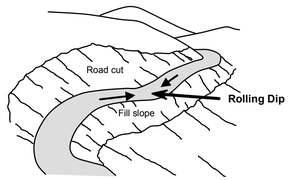
1 DITCH RELIEF CULVERT
NOT TO SCALE

ROLLING DIP







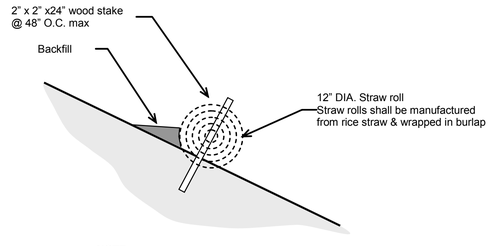


ROLLING DIP DIMENSIONS			
Road Grade (%)	Depth of trough Depth below downslope crest	A: Reverse grade (Distance from trough to downroad crest (ft)	B: Upslope Approach Distance from up-road start of rolling dip to trough (ft)
<6	8" to 12"	10 ±	30±
6 - 8	8" to 12"	15 ±	50±

NOTES:
- A rolling dip is a broad long permanent dip constructed into native soils. It is intended to drain the road while not significantly impeding traffic.
- The cross drain road (outslope) at 3% to 5% road grade (maximum 15%)
- Dip outlets should be located to drain into areas with adequate sediment filter quality and non-erodible material such as rock, slash, brush, etc. Where specified, the bottom of the outfall of the dip will be surface rocked.
- Where natural slopes exceed 50%, fill shall not be pushed over the dip outlet. A backhoe or excavator may be required to pull back fill at outlet of existing dips.

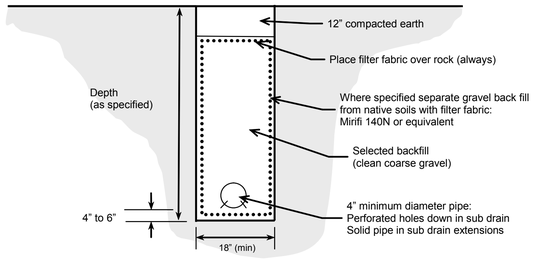
2 ROLLING DIP
NOT TO SCALE

COIR ROLL



NOTE:
- Rolls shall be placed in a row with ends tightly abutting adjacent rolls
- Rolls to be placed on contour
- Rolls to be placed at toe of fill slopes.

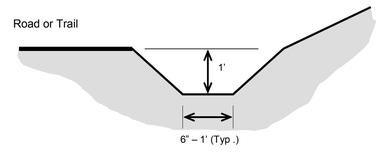
4 COIR ROLL
NOT TO SCALE



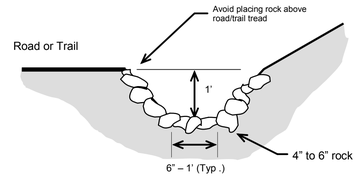
NOTES
- Excavate 12+" wide trench as specified. Trench should have positive gradient to discharge point.
- Where specified, line trench with approved filter fabric (Mirifi 180N or equivalent)
- Place perforated pipe 4" to 6" from bottom of trench. Solid pipe should extend from trench to discharge point.
- Back fill trench with clean coarse gravel to within 12" of grade
- Place fabric over top of gravel back fill
- Cap with 12" of compacted earth
- Discharge in a reasonable and controlled manner

3 PERFORATED SUBDRAIN
NOT TO SCALE

INSIDE DITCH (native)



INSIDE DITCH (Rock lined)



NOTES:
- Slope ditch to drain 3% min
- Armor ditch where specified
- Drain ditch to ditch relief culvert inlet as specified.

5 INSIDE DITCH
NOT TO SCALE

TIMOTHY C. BEST, CEG
ENGINEERING GEOLOGY AND HYDROLOGY
1002 Columbia Street, Santa Cruz, CA 95060
(831) 425-5832 (831) 425 5830 fax.

PLANS PREPARED UNDER THE DIRECTION OF:

, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

LandPeople
landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax
w w w . l a n d p e o p l e . n e t

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay,
California

Sheet:

DRAINAGE DETAILS

DATE: January 30, 2007

DRAWN BY: IE

CHECKED BY: RA

REVISIONS: January 9, 2008

PEDESTRIAN/BICYCLE BRIDGE SPECIFICATIONS

GENERAL

THESE SPECIFICATIONS ARE FOR AN ENGINEERED CLEAR SPAN BRIDGE OF STEEL CONSTRUCTION AND SHALL BE REGARDED AS MINIMUM STANDARDS FOR DESIGN AND CONSTRUCTION. THE SPECIFICATIONS ARE GOVERNED BY CRITERIA SPECIFIED IN THE 2007 CALIFORNIA BUILDING CODE (CBC), & AASHTO "GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES" PUBLISHED IN 1997.

DESIGN

1. RAILING SUPPORT:
   RAILING HEIGHT SHALL BE 54" FOR PEDESTRIAN/BICYCLE TYPE BRIDGE. RAILING DESIGN SHALL CONFORM TO AASHTO "GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES".
2. DIAGONALS:
   BRIDGE SHALL BE PROVIDED WITH A MINIMUM OF ONE DIAGONAL PER PANEL. TWO DIAGONALS SHALL BE PROVIDED AS REQUIRED FOR HEAVIER LOAD CONDITIONS.

ENGINEERING:

1. UNIFORM LIVE LOAD:
   DESIGN LOADS FOR THE BRIDGE SHALL BE BASED ON THE AASHTO "GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES" PUBLISHED IN 1997. UNIFORM LIVE LOADS SHALL BE 85 PSF WITH ALLOWABLE REDUCTIONS PER AASHTO GUIDELINES. MAXIMUM VEHICLE WEIGHT SHALL BE 10000 LBS. THESE LOADS SHALL BE IN ADDITION TO ALL DEAD LOADS. LOAD COMBINATIONS SHALL CONFORM TO 2007 CBC SECTION 1605.
2. SEISMIC/EARTHQUAKE LOADING SHALL CONFORM TO 1997 AASHTO SEISMIC DESIGN SPECIFICATIONS FOR BRIDGES, DIVISION 1-A.
3. WIND LOADING:
   FOR OPEN TRUSS BRIDGES, WHERE WIND CAN READILY PASS THROUGH THE TRUSSES, BRIDGES MAY BE DESIGNED FOR A MINIMUM HORIZONTAL LOAD OF 35 LBS PSF ON THE FULL VERTICAL PROJECTED AREA OF THE BRIDGE AS IF ENCLOSED.
4. ALLOWABLE DEFLECTIONS:
   PEDESTRIAN LIVE LOAD = L/500
   HORIZONTAL WIND = L/500
   CAMBER = 1.5 x DEAD LOAD DEFLECTION MAXIMUM.

MATERIALS:

1. BRIDGE SHALL BE FABRICATED FROM STEEL PER MANUFACTURER'S SPECIFICATIONS. STEEL SHALL BE GALVANIZED.
2. DECKING:
   DECKING SHALL BE WOOD. WOOD SHALL BE PRESSURE TREATED OR OTHERWISE PROTECTED AGAINST WATER DAMAGE.
3. HARDWARE:
   ALL HARDWARE WILL BE HOT DIPPED GALVANIZED A307 STEEL U.O.N.

FOUNDATIONS:

1. BRIDGE SUPPORT LOAD REACTIONS, ANCHOR BOLT LOCATION AND PLACEMENT SHALL BE PROVIDED BY THE BRIDGE MANUFACTURER.

REINFORCING STEEL

1. REINFORCING STEEL SHALL CONFORM TO ASTM DESIGNATION A-615. NUMBER 2 & 3 SHALL BE GRADE 40. NUMBER 4 & LARGER SHALL BE GRADE 60.
2. ALL REINFORCEMENT SHALL BE CONTINUOUS. STAGGER SPLICES IN ADJACENT BARS. LAP SPLICES SHALL BE PER PLANS, 40 BAR DIAMETERS OR 24-INCH MINIMUM, STAGGER SPLICES 3'-0" MIN.
3. REINFORCING BARS AND EMBEDDED HARDWARE SHALL BE SUFFICIENTLY TIED AND HELD IN PLACE TO PREVENT DISPLACEMENT DURING PLACEMENT OF CONCRETE.
4. MINIMUM BAR COVERAGE SHALL BE AS FOLLOWS, U.O.N.:
   3" FOR CONCRETE CAST AGAINST EARTH (EXCEPT SLABS).
   2" FOR CONCRETE EXPOSED TO EARTH BUT PLACED IN FORMS.
   1-1/2" FOR SURFACES EXPOSED TO WEATHER.
5. SPECIAL INSPECTION REQUIRED PER C.B.C. 1704.4

CONCRETE

1. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI. USE A MINIMUN OF 5½"
2. SACKS OF TYPE II PORTLAND CEMENT PER CUBIC YARD OF CONCRETE. MAXIMUM SLUMP = 4 INCHES.
3. SPECIAL INSPECTION REQUIRED, PER CBC 1704.4
4. CONCRETE SHALL BE MECHANICALLY VIBRATED.
5. NON-SHRINK GROUT SHALL BE BURKE NON-METALLIC MULTI PURPOSE OR APPROVED EQUAL WITH Fc = 3000psi @ 28 DAYS.

PIER CONSTRUCTION

1. PLACEMENT OF CONCRETE @ DRILLED PIERS SHALL CONFORM TO THE PROCEDURES FOR PIER FOUNDATIONS, ACI 336.3R LATEST EDITION.
2. PRIOR TO PLACEMENT OF CONCRETE EXCAVATIONS SHALL BE THOROUGHLY CLEANED. CASING OF THE UPPER PORTION OF DRILLED HOLE MAY BE NECESSARY TO AVOID SPILLING OF DEBRIS AND COLLAPSING THE TOP OF THE HOLE.
3. IF GROUND WATER IS ENCOUNTERED IN THE DRILLED HOLE, WATER SHALL BE PUMPED OUT AND TREMMIE PLACEMENT OF CONCRETE SHALL BE REQUIRED.
4. NO CONCRETE SPILLS SHALL BE ALLOWED DURING CONSTRUCTION. CONTRACTOR SHALL BE PREPARED TO CONTAIN AND CLEAN UP ALL CONCRETE SPILLS. CONTAINMENT MEHTOD SHALL BE APPROVED AND IN PLACE PRIOR TO POURING CONCRETE.

SPECIAL INSPECTIONS

THE CONTRACTOR SHALL OBTAIN AND THE OWNER SHALL PAY FOR ONE OR MORE SPECIAL INSPECTORS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER CBC SECTION 1701.5.

1. PROVIDE CONTINUOUS (WHERE REQUIRED) & PERIODIC (WHERE ALLOWED) SPECIAL INSPECTION OF THE FOLLOWING ITEMS:
   A. CONCRETE PER CBC 1704.4
   B. REINFORCING STEEL PER CBC 1704.4
   C. DRILLED PIER CONSTRUCTION PER CBC 1704.9
   D. STRUCTURAL STEEL WELDING PER CBC 1701.4.3.1
2. SUBMIT WRITTEN REPORTS OF SPECIAL INSPECTIONS TO THE ARCHITECT/ENGINEER, OWNER, CONTRACTOR AND BUILDING OFFICIAL
3. ALL INSPECTIONS SHALL CONFORM TO THE LOCAL BUILDING DEPARTMENT REQUIREMENTS. SPECIAL INSPECTION AGENCY/INSPECTOR SHALL BE APPROVED BY THE BUILDING DEPARTMENT

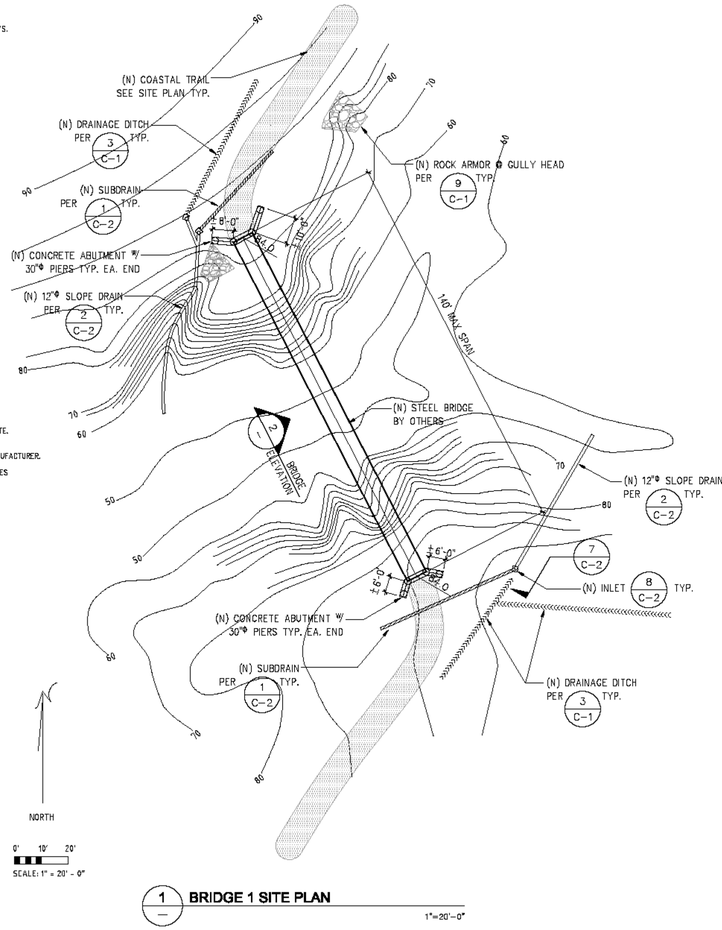
SUBMITTALS:

THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR REVIEW:
1.- STEEL BRIDGE STRUCTURE

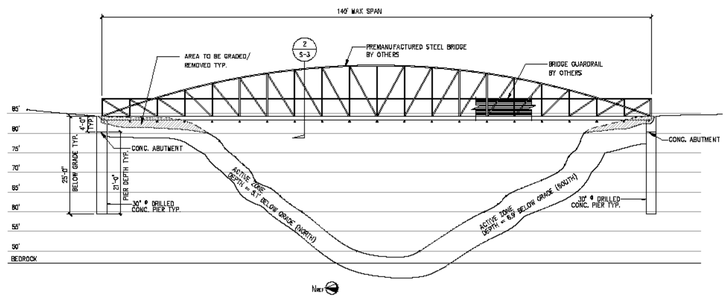
BRIDGE ENGINEER SHALL BE LICENSED IN THE STATE OF CALIFORNIA WITH EXPERIENCE IN DESIGN OF PEDESTRIAN/ BICYCLE BRIDGES. BRIDGE MANUFACTURER SHALL SUBMIT DESIGN DRAWINGS AND CALCULATIONS WET STAMPED BY THE ENGINEER FOR REVIEW BY THE PROJECT ENGINEER OF RECORD.

DELIVERY AND ERECTION:

1. DELIVERY SHALL BE MADE TO A LOCATION NEAREST THE SITE WHICH IS ACCESSIBLE TO OVER-THE-ROAD TRUCKS.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR UNLOADING THE BRIDGE FROM THE TRUCK AT TIME OF ARRIVAL. BRIDGE SUPPLIER SHALL NOTIFY THE CONTRACTOR IN ADVANCE OF THE EXPECTED TIME OF ARRIVAL AT THE SITE.
3. THE UNLOADING, SPLICING (IF REQUIRED), AND PLACEMENT OF THE BRIDGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE ASSEMBLY PROCEDURE FOR INSTALLING THE BRIDGE WILL BE GIVEN TO THE CONTRACTOR BY THE MANUFACTURER. THE CONTRACTOR SHALL INSTALL THE BRIDGE PER THE MANUFACTURER'S RECOMMENDED ASSEMBLY PROCEDURES, AND INSTRUCTIONS. CONTRACTOR SHALL CONTACT MANUFACTURER AND OBTAIN ASSEMBLY INSTRUCTIONS AND PROCEDURES PRIOR TO BIDDING THE PROJECT.



1 — BRIDGE 1 SITE PLAN
1"=20'-0"



2 — BRIDGE 1 SECTION
3/32"=1'-0"

PLANS PREPARED UNDER THE DIRECTION OF:

J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

JAKABY ENGINEERING
COMMERCIAL & RESIDENTIAL STRUCTURES
307 Orchard City Dr. Suite 107
Campbell, CA 95008
(408) 374-6149
Fax (408) 374-5911

LandPeople
landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax
w w w . l a n d p e o p l e . n e t

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

BRIDGE 1 PLAN & ELEVATION

BRIDGE SPECIFICATIONS

DATE:
January 30, 2004

DRAWN BY:
IE

CHECKED BY:
RA

REVISIONS:
January 9, 2008

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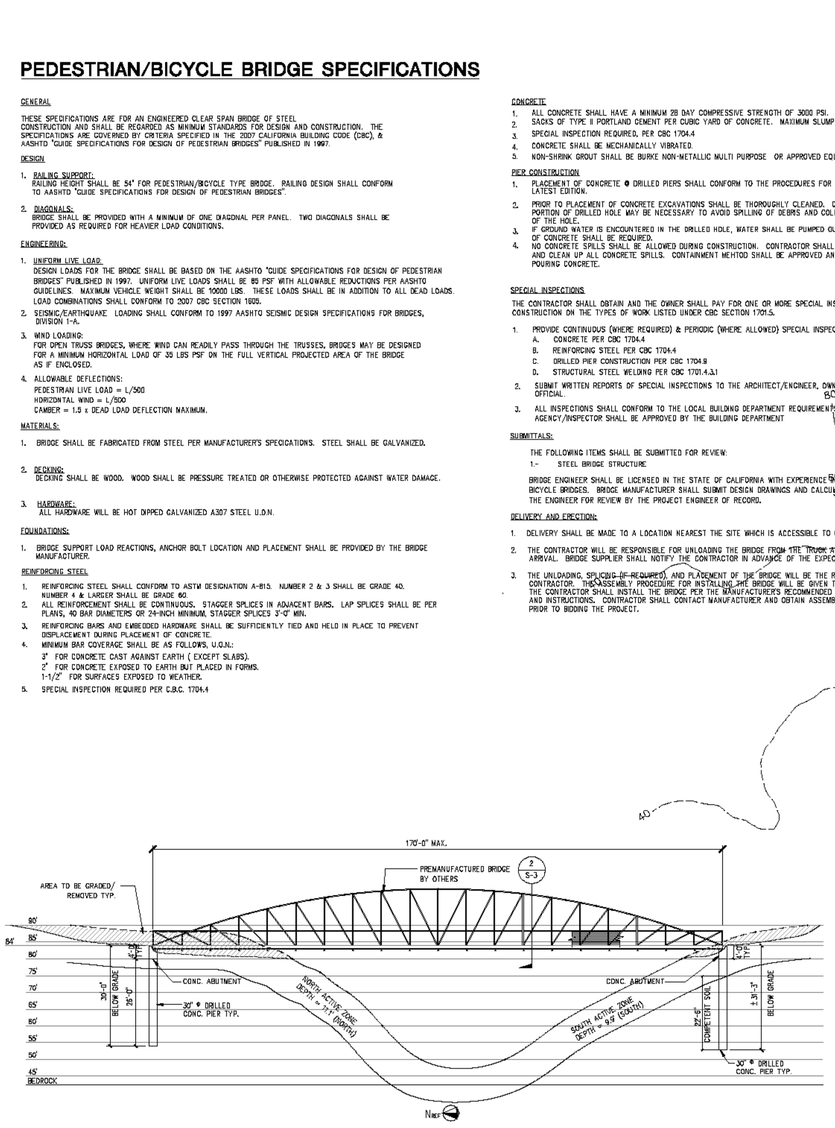
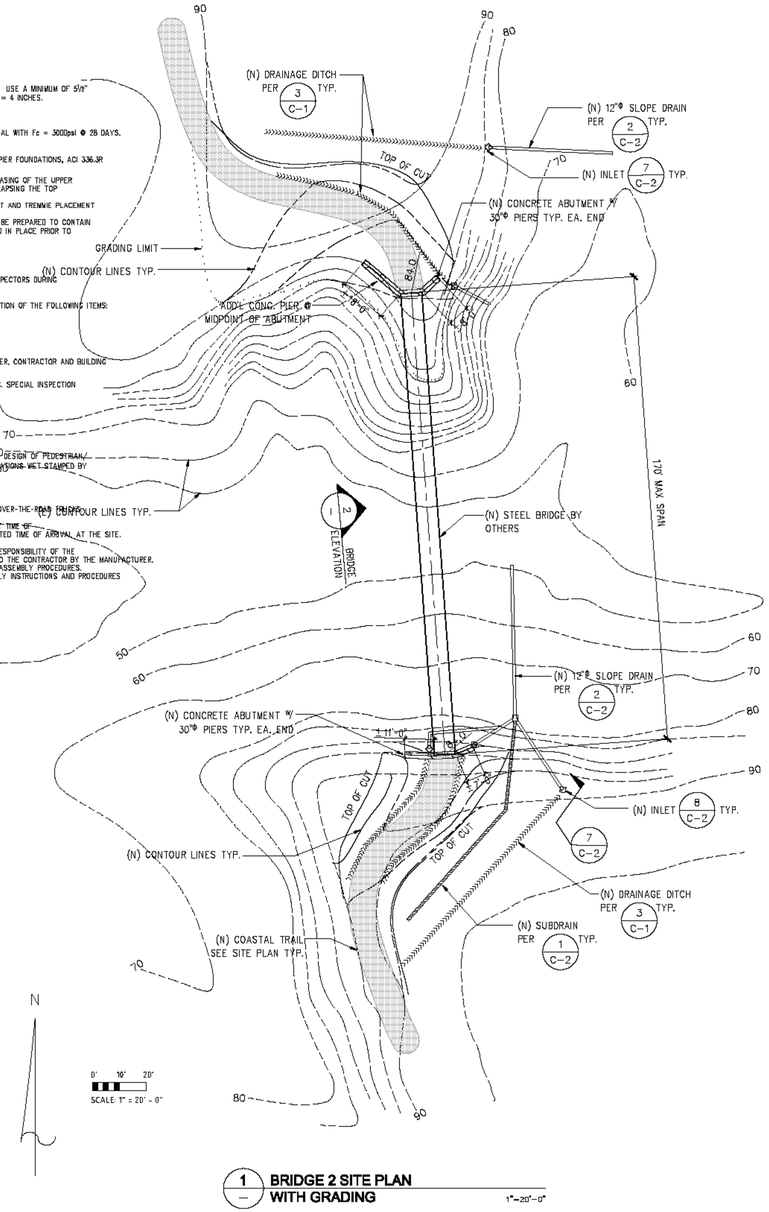
BRIDGE ENGINEER SHALL BE LICENSED IN THE STATE OF CALIFORNIA WITH EXPERIENCE IN DESIGN OF PEDESTRIAN/BICYCLE BRIDGES. BRIDGE MANUFACTURER SHALL SUBMIT DESIGN DRAWINGS AND CALCULATIONS WET STAMPED BY THE ENGINEER FOR REVIEW BY THE PROJECT ENGINEER OF RECORD.

DELIVERY AND ERECTION:

1. DELIVERY SHALL BE MADE TO A LOCATION NEAREST THE SITE WHICH IS ACCESSIBLE TO OVER-THE-ROAD TRUCKS.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR UNLOADING THE BRIDGE FROM THE TRUCK AT THE TIME OF ARRIVAL. BRIDGE SUPPLIER SHALL NOTIFY THE CONTRACTOR IN ADVANCE OF THE EXPECTED TIME OF ARRIVAL AT THE SITE.
3. THE UNLOADING, SPLICING (IF REQUIRED), AND PLACEMENT OF THE BRIDGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE ASSEMBLY PROCEDURE FOR INSTALLING THE BRIDGE WILL BE GIVEN TO THE CONTRACTOR BY THE MANUFACTURER. THE CONTRACTOR SHALL INSTALL THE BRIDGE PER THE MANUFACTURER'S RECOMMENDED ASSEMBLY PROCEDURES AND INSTRUCTIONS. CONTRACTOR SHALL CONTACT MANUFACTURER AND OBTAIN ASSEMBLY INSTRUCTIONS AND PROCEDURES PRIOR TO BIDDING THE PROJECT.



2 BRIDGE 2 SECTION w/ GRADING 1/16"=1'-0"



1 BRIDGE 2 SITE PLAN WITH GRADING 1"=20'-0"

PLANS PREPARED UNDER THE DIRECTION OF:

J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

JAKABY ENGINEERING
COMMERCIAL & RESIDENTIAL STRUCTURES
307 Orchard City Dr. Suite 107
Campbell, CA 95008
(408) 374-6149
Fax (408) 374-5911

LandPeople
landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax
w w w . l a n d p e o p l e . n e t

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

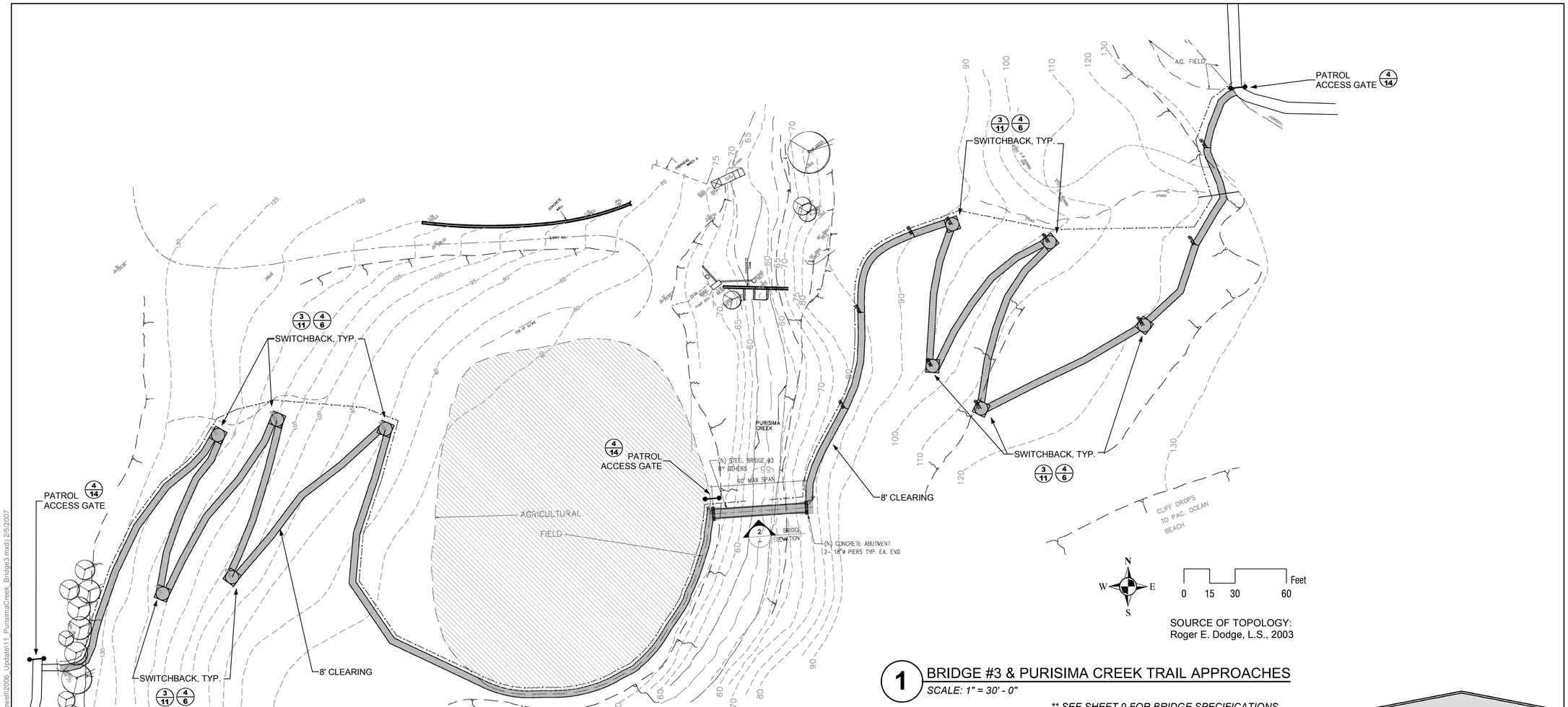
BRIDGE 2 PLAN & ELEVATION

DATE: January 30, 2004

DRAWN BY: IE

CHECKED BY: RA

REVISIONS: January 9, 2008

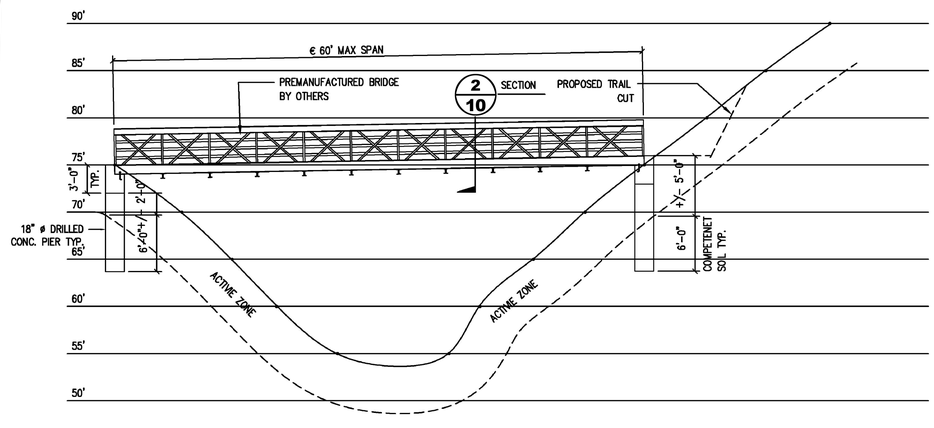


SOURCE OF TOPOLOGY:
Roger E. Dodge, L.S., 2003

1 BRIDGE #3 & PURISIMA CREEK TRAIL APPROACHES

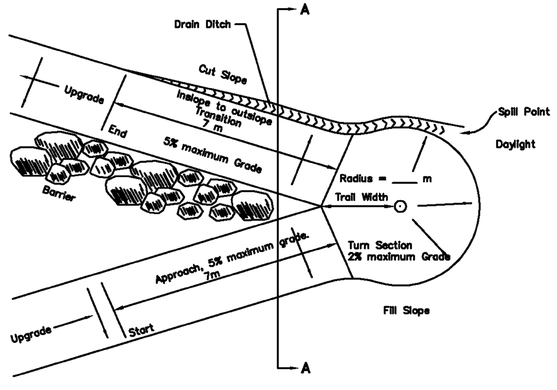
SCALE: 1" = 30' - 0"

*** SEE SHEET 9 FOR BRIDGE SPECIFICATIONS*
SEE SHEET 10 FOR SAMPLE BRIDGE PHOTO
SEE SHEET 12 FOR BRIDGE DETAILS



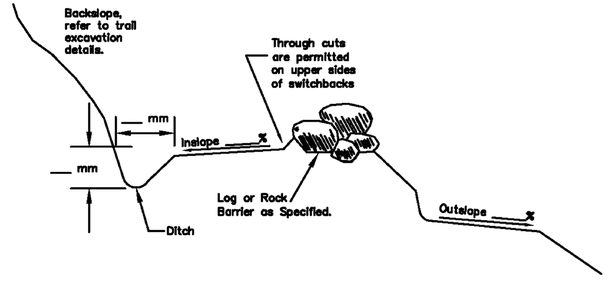
2 BRIDGE 3 ELEVATION

1/8" = 1' - 0"



3 SWITCHBACK DETAIL, TYP.

NOT TO SCALE



SECTION A–A

JAKABY ENGINEERING
COMMERCIAL & RESIDENTIAL STRUCTURES
307 Orchard City Dr, Suite 107
Campbell, CA 95008
(408) 374-6149
Fax (408) 374-5911

PLANS PREPARED UNDER THE DIRECTION OF:

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LandPeople
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w w w . l a n d p e o p l e . n e t

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

BRIDGE #3, PURISIMA CREEK & TRAIL APPROACHES

DATE:
January 30, 2004

DRAWN BY:
IE

CHECKED BY:
RA

REVISIONS:
January 9, 2008

PLANS PREPARED UNDER THE DIRECTION OF:

, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

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307 Orchard City Dr. Suite 107
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(408) 374-6149
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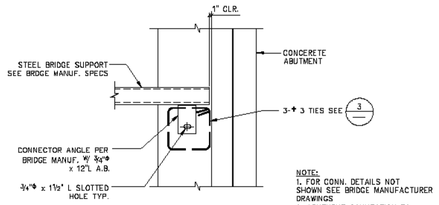


NOTE:
1. FOR CONN. DETAILS NOT SHOWN SEE BRIDGE MANUFACTURER DRAWINGS
2. ABUTMENT CONNECTION TO OCCUR AT EACH BRIDGE SUPPORT BEAM. VERIFY W/ BRIDGE MANUF. PRIOR TO INSTALLATION

6 — SLOTTED BRIDGE ANCHORAGE N.T.S.

CONCRETE STRENGTH	F'c = 2500 PSI			
CLASS OF LAP SPLICE	CLASS "A"		CLASS "B"	
BAR CASE / SIZE	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	1'-4"	1'-1"	1'-8"	1'-4"
#4	1-10"	1'-5"	2'-4"	1'-10"
#5	2'-3"	1'-8"	2'-11"	2'-3"
#6	2'-11"	2'-3"	3'-10"	2'-11"

LAP SLIPCE SCHEDULE

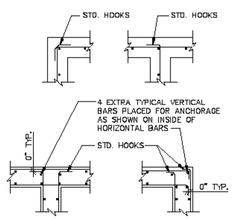
NOTES:
1. UNLESS INDICATED OTHERWISE, USE THE CLASS "B", "OTHER BARS," LAP SPLICE LENGTHS (CRSI CATEGORY 3)
2. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
3. SPLICES OF HORIZONTAL REINFORCEMENT IN WALLS SHALL BE STAGGERED.
4. SPLICES IN WALLS CONTAINING TWO CURTAINS OF REINFORCEMENT SHALL NOT OCCUR IN THE SAME LOCATION.
5. BARS SHALL HAVE CLEAR SPACING GREATER THAN 2 x BAR DIAMETER OR 1-1/2", WHICHEVER IS GREATER.
6. LAPS SHALL BE STAGGERED SUCH THAT ONE-HALF OR LESS OF THE TOTAL REINFORCING BARS ARE SPLICED AT ANY ONE LOCATION.

DIAMETER OF BENDS	
D1	1 1/2" FOR #3 BARS 2" FOR #4 BARS 2 1/2" FOR #5 BARS
D2	6d FOR #3 THRU #8 BARS

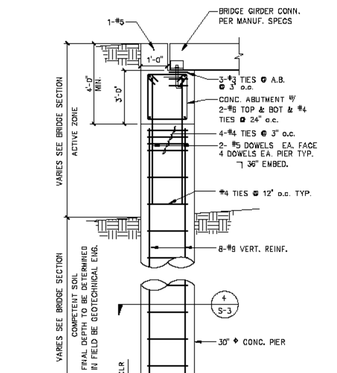
"D1" – FOR STIRRUPS, TIES AND WALL REINF. AT OPENINGS
"D2" – FOR ALL OTHERS

STANDARD HOOK LENGTHS				
BAR SIZE	MAIN REINF.		STIRRUP & TIE HOOKS	
	90°	180°	90°	135°
#3	6"	4"	3"	4½"
#4	8"	4"	4"	6"
#5	9½"	4½"	5"	7½"
#6	11½"	5½"	11½"	10"

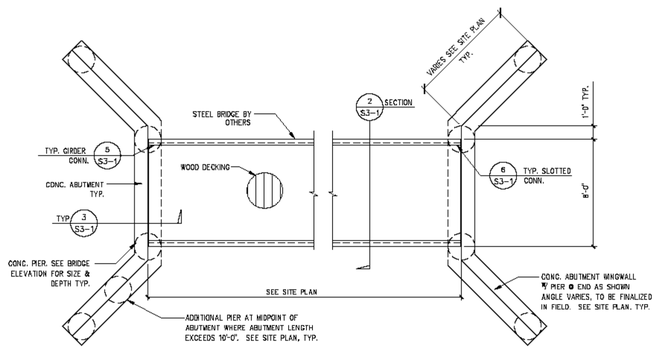
7 — REBAR OFFSET AND LAP SPLICE STANDARD HOOKS N.T.S.



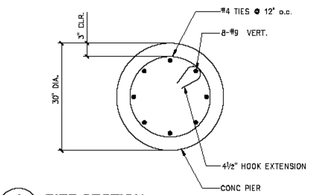
8 — CONCRETE WALL AND GRADE BEAM INTERSECTIONS N.T.S.



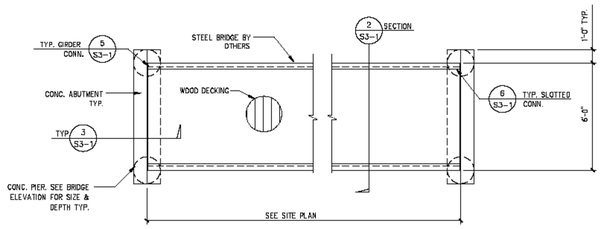
3 — TYP. CONC. PIER 1/2"=1'-0"



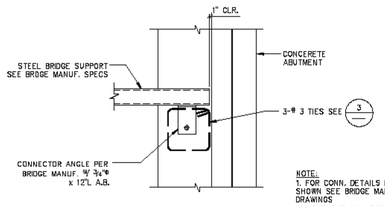
1 — BRIDGE FOUNDATION PLAN BRIDGES 1 AND 2 1/4" = 1'-0"



4 — PIER SECTION 1" = 1'-0"

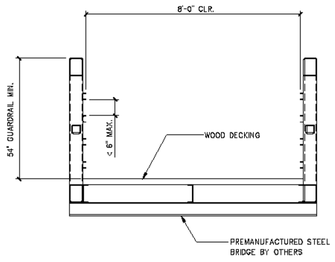


1A — BRIDGE FOUNDATION PLAN BRIDGE 3 1/4" = 1'-0"



NOTE:
1. FOR CONN. DETAILS NOT SHOWN SEE BRIDGE MANUFACTURER DRAWINGS
2. ABUTMENT CONNECTION TO OCCUR AT EACH BRIDGE SUPPORT BEAM. VERIFY W/ BRIDGE MANUF. PRIOR TO INSTALLATION

5 — BRIDGE ANCHORAGE N.T.S.



2 — BRIDGE SECTION SCALE 1/2"=1'-0"

LandPeople
landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax
www.landpeople.net

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

BRIDGE DETAILS

DATE: September 28, 2004
DRAWN BY: IE
CHECKED BY: RA

REVISIONS: January 9, 2008

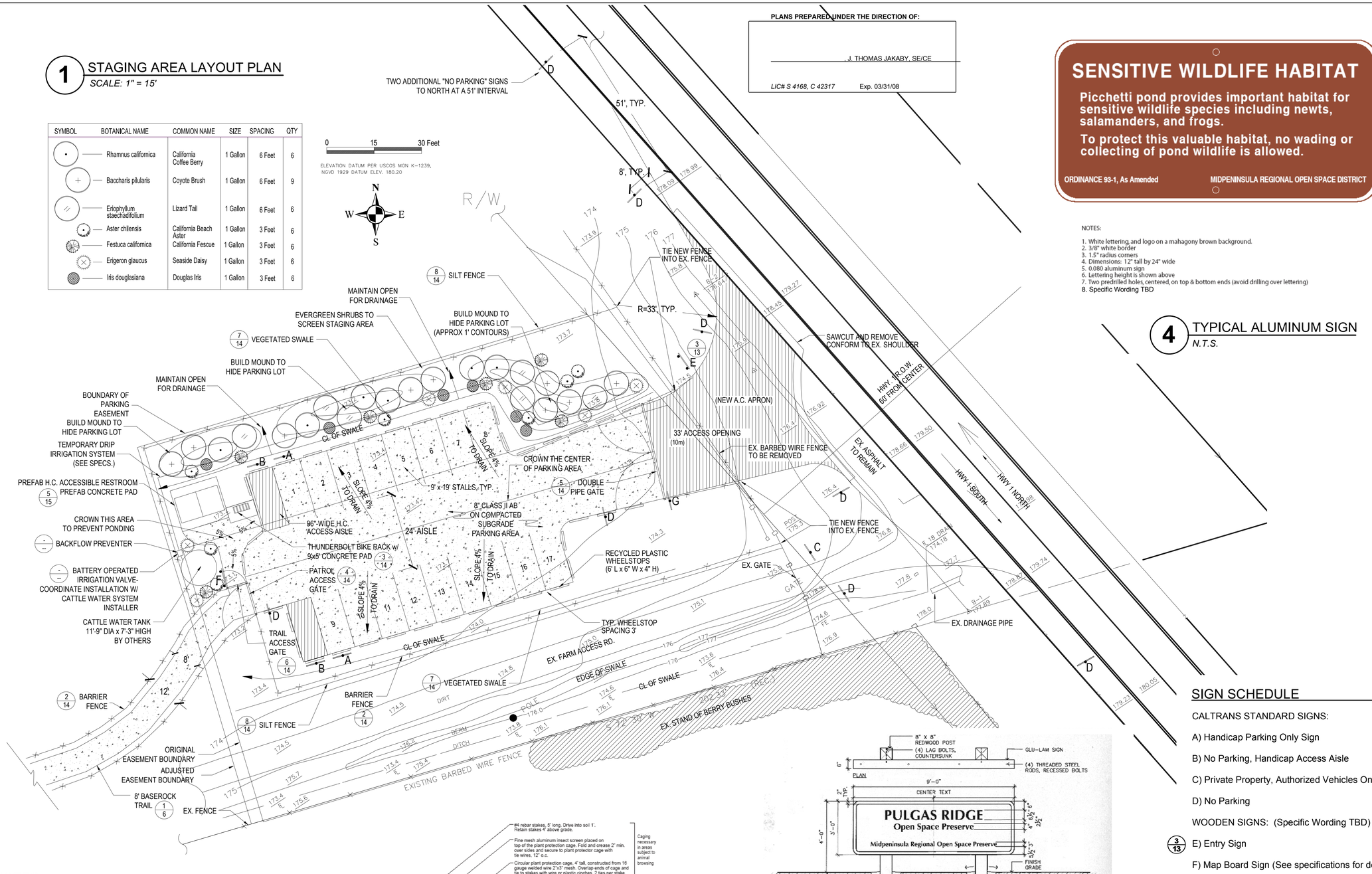
1 STAGING AREA LAYOUT PLAN

SCALE: 1" = 15'

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY
	Rhamnus californica	California Coffee Berry	1 Gallon	6 Feet	6
	Baccharis pilularis	Coyote Brush	1 Gallon	6 Feet	9
	Eriophyllum staechadifolium	Lizard Tail	1 Gallon	6 Feet	6
	Aster chilensis	California Beach Aster	1 Gallon	3 Feet	6
	Festuca californica	California Fescue	1 Gallon	3 Feet	6
	Erigeron glaucus	Seaside Daisy	1 Gallon	3 Feet	6
	Iris douglasiana	Douglas Iris	1 Gallon	3 Feet	6

0 15 30 Feet

ELEVATION DATUM PER USCOS MON K-1239, NGVD 1929 DATUM ELEV: 180.20



NOTES

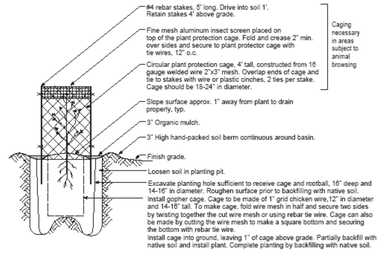
1. See specifications for planting, seeding, irrigation, and maintenance requirements.

2. Prefabricated handicap accessible restroom unit shall be placed on 6" concrete pad over septic vault. (Model = CXT Tioga Special or approved equal). ADA accessible prefab concrete restroom with pump out vault, 2 units with chase or closet. See specifications.

3. Baserock parking area surface shall be 6" class II a.b. over native soil, stripped and compacted to 90%. Path to restroom, trailhead and area around handicapped spaces to be maximum 5% cross-slope.

4. New A.C. apron shall be constructed of 6" baserock, 2" binder course, and 1" topping

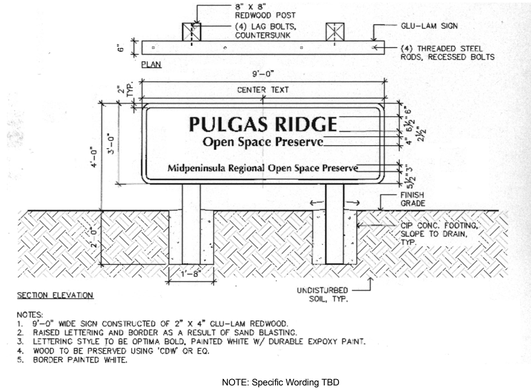
5. Wheel stops/planting area bumpers shall be Belson recycled plastic car stops - gray color - (6' L x 6" W x 4" H) or approved equal. Placed as shown with 3' typical spacing.



Source: Biotic Resources Group 2003.

2 CONTAINER STOCK INSTALLATION

N.T.S.



NOTES:
1. 9'-0" WIDE SIGN CONSTRUCTED OF 2" X 4" GLU-LAM REDWOOD.
2. RAISED LETTERING AND BORDER AS A RESULT OF SAND BLASTING.
3. LETTERING STYLE TO BE OPTIMA BOLD, PAINTED WHITE W/ DURABLE EXPOXY PAINT.
4. WOOD TO BE PRSERVED USING 'CDW' OR EQ.
5. BORDER PAINTED WHITE.

NOTE: Specific Wording TBD

3 ENTRY SIGN

N.T.S.

PLANS PREPARED UNDER THE DIRECTION OF:

J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

SENSITIVE WILDLIFE HABITAT

Picchetti pond provides important habitat for sensitive wildlife species including newts, salamanders, and frogs.

To protect this valuable habitat, no wading or collecting of pond wildlife is allowed.

ORDINANCE 93-1, As Amended **MIDPENINSULA REGIONAL OPEN SPACE DISTRICT**

NOTES:

1. White lettering, and logo on a mahagony brown background.
2. 3/8" white border
3. 1.5" radius corners
4. Dimensions: 12" tall by 24" wide
5. 0.080 aluminum sign
6. Lettering height is shown above
7. Two predrilled holes, centered, on top & bottom ends (avoid drilling over lettering)
8. Specific Wording TBD

4 TYPICAL ALUMINUM SIGN

N.T.S.

SIGN SCHEDULE

CALTRANS STANDARD SIGNS:

A) Handicap Parking Only Sign

B) No Parking, Handicap Access Aisle

C) Private Property, Authorized Vehicles Only

D) No Parking

WOODEN SIGNS: (Specific Wording TBD)

3 13 E) Entry Sign

F) Map Board Sign (See specifications for details)

5 13 ALUMINUM SIGNS: (Specific Wording TBD)

G) Hours of Operation

H) "Warning: Steep/Unstable Cliffs - STAY BACK" at average 400' intervals along trail, near bluffs. (Assume 40 signs)

I) "Private Farm Area - NO TRESPASSING" wired at average 200' intervals along boundary fence. (Assume 90 signs)

J) "Sensitive Wildlife Habitat", located as required in or near ravine areas. (Assume 10 signs)

K) Environmental, educational, & interpretive signs for habitat. wildlife, history, agriculture, at trailheads and intervals along the trail. (Assume 6 signs)

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landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax
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Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

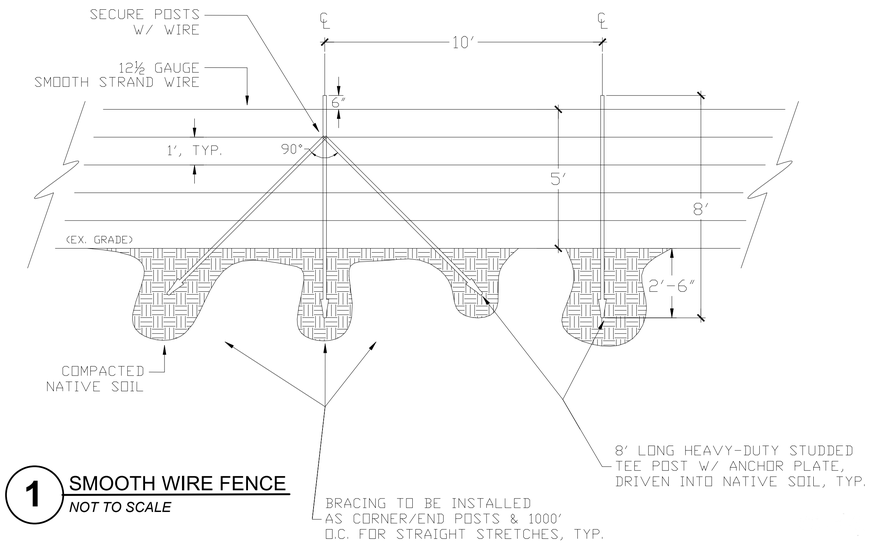
PARKING LOT/ STAGING AREA LAYOUT PLAN

DATE: January 30, 2004

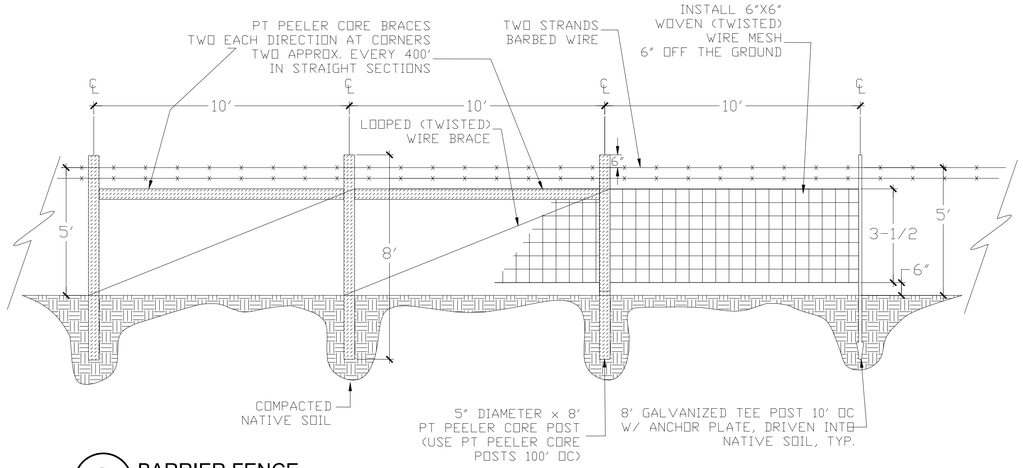
DRAWN BY: IE

CHECKED BY: RA

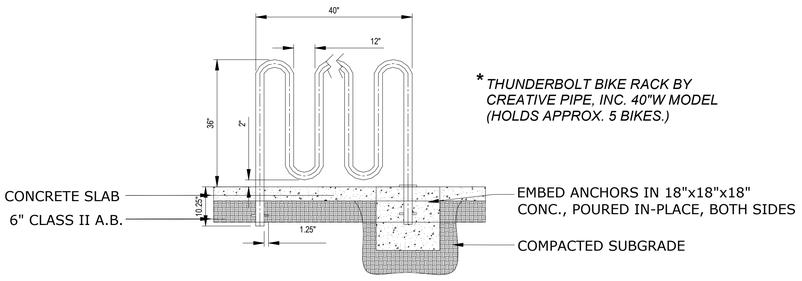
REVISIONS: January 9, 2008



1 SMOOTH WIRE FENCE
NOT TO SCALE

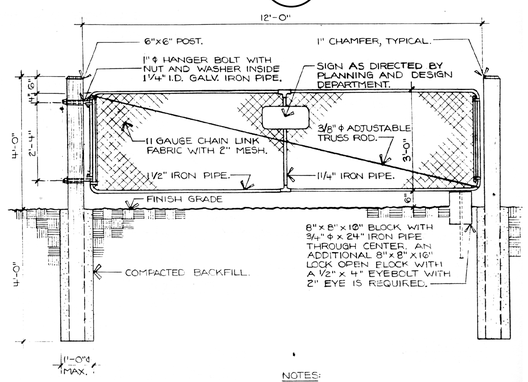


2 BARRIER FENCE
NOT TO SCALE



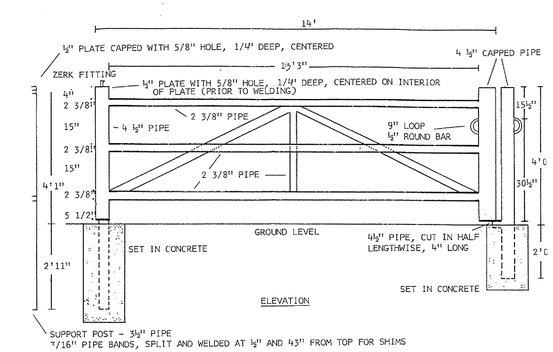
* *THUNDERBOLT BIKE RACK BY CREATIVE PIPE, INC. 40"W MODEL (HOLDS APPROX. 5 BIKES.)*

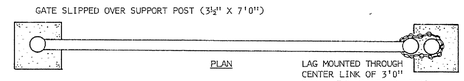
3 THUNDERBOLT BIKE RACK
NOT TO SCALE



NOTES:
1. ALL POSTS AND BLOCKS TO BE PRESSURE TREATED ROUGH DOUGLAS FIR, #2 OR BETTER.
2. GATE FRAME AND FABRIC TO BE PAINTED WITH TWO(2) COATS OF "TRAIL BROWN" INDUSTRIAL ENAMEL. PAINT TO BE SUPPLIED BY EAST BAY REGIONAL PARK DISTRICT.
3. STAIN ALL EXPOSED SURFACES OF WOOD POSTS AND BLOCKS WITH OLYMPIC #711 SEMI-TRANSPARENT STAIN.
4. ALL METAL TO BE HOT DIP GALVANIZED
5. LOCATE ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATING POST HOLES.

4 PATROL ACCESS GATE
NOT TO SCALE



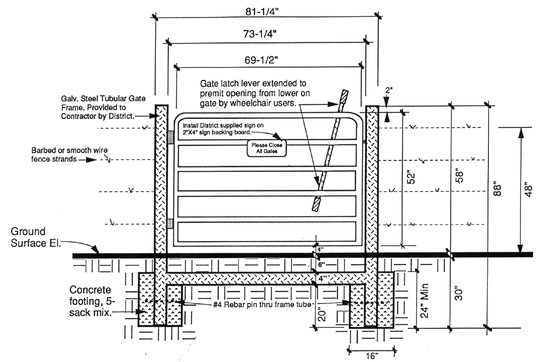


NOTES :
- ALL PIPE TO BE SCHEDULE 40
- WELDED ALL AROUND WITH ¼" FILLET WELD

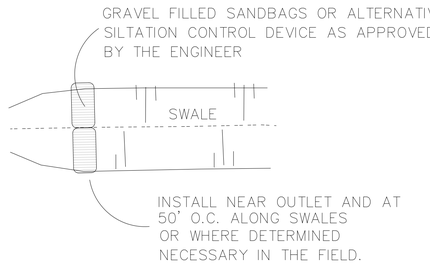
IN INSTALLATION:
- PLACE HINGE POST ON UPHILL SIDE OF ROADWAY
- INSTALL HINGE POST WITH ENOUGH CAMBER (5%) TO COMPENSATE FROM BENDING WHEN GATE IS HUNG

- PAINT: OLYMPIC OXFORD BROWN

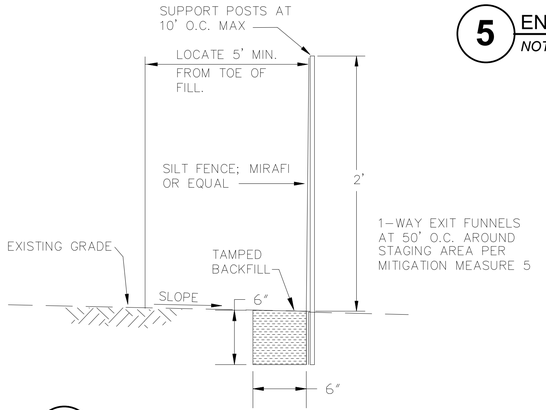
5 ENTRANCE GATE
NOT TO SCALE



6 TRAIL ACCESS GATE
NOT TO SCALE



7 SWALE
NOT TO SCALE



8 SILT FENCE
NOT TO SCALE

PLANS PREPARED UNDER THE DIRECTION OF:

J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

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Client:

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Project:

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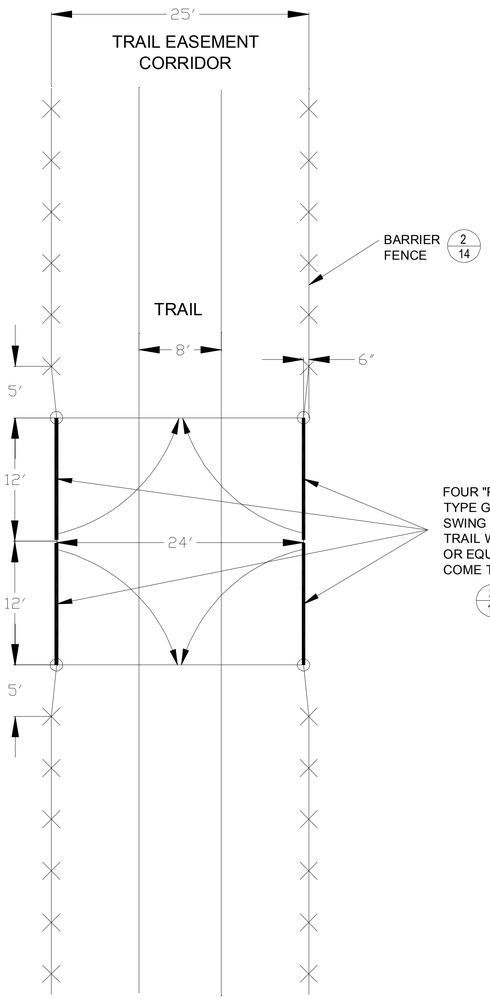
Half Moon Bay, California

Sheet:

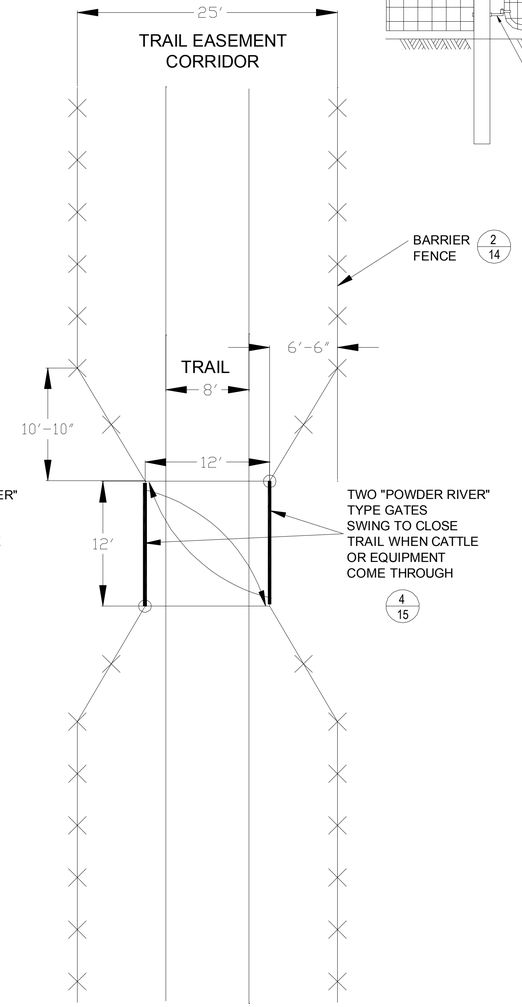
FENCE AND GATE DETAILS

DATE: January 30, 2004
DRAWN BY: MSL
CHECKED BY: RA

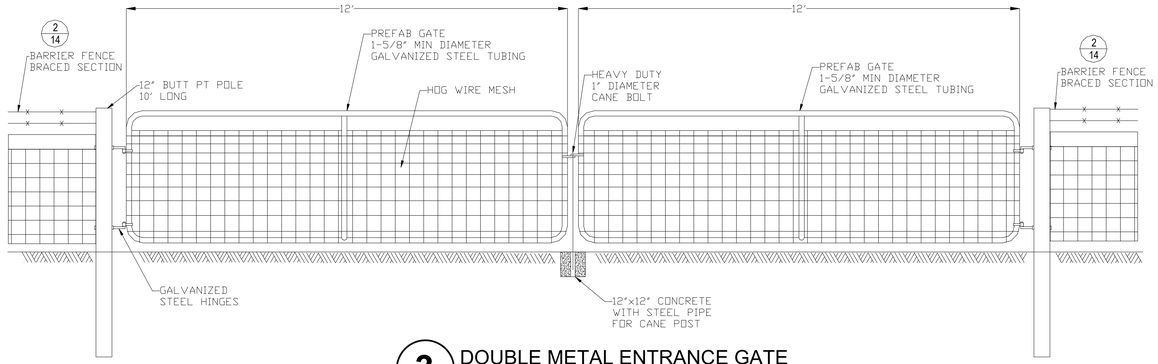
REVISIONS: January 9, 2008



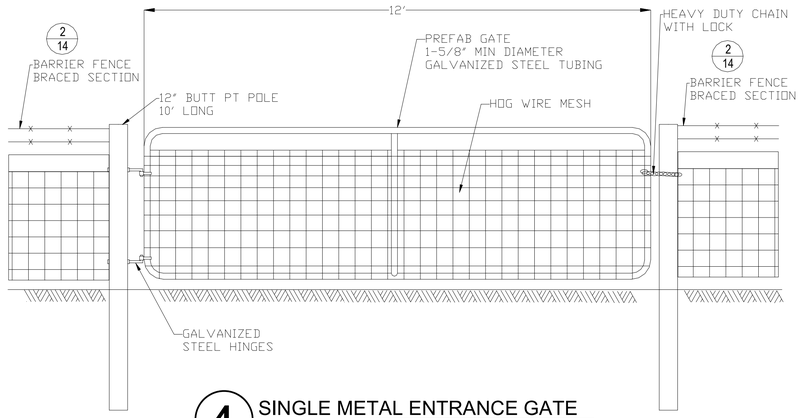
1 24' AG ACCESS ACROSS TRAIL
NOT TO SCALE



2 12' AG ACCESS ACROSS TRAIL
NOT TO SCALE



3 DOUBLE METAL ENTRANCE GATE
NOT TO SCALE



4 SINGLE METAL ENTRANCE GATE
NOT TO SCALE

CXT INDUSTRIES TIOGA SPECIAL DOUBLE CONCRETE VAULT TOILET, SIMULATED SHAKE ROOF, BARNWOOD TEXTURE AND FULL LENGTH CONCRETE VAULTS WITH ABS LINERS OFFLOADED AND SETUP BY CXT AT JOBSITE. (11'-11" WIDTH x 14'-4" LENGTH X 9-6" HEIGHT)

INCLUDES EARTHWORK TO INSTALL VAULT, EXCAVATION OF THE HOLE, BACKFILL AND COMPACTION AROUND VAULT AND ALL ASSOCIATED CLEANUP.

INCLUDES CHASE AREA WITH GALVANIZED ACCESS DOOR. TWO-TONE COLOR SCHEME, MARINE PACKAGE FOR EXTRA CORROSSION PROTECTION, FIBERGLASS ENTRY DOORS AND FRAMES, AND SOLAR LIGHTING SYSTEM.

5 TWO UNIT RESTROOM
NOT TO SCALE

PLANS PREPARED UNDER THE DIRECTION OF:

, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

LandPeople
landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax
w w w . l a n d p e o p l e . n e t

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

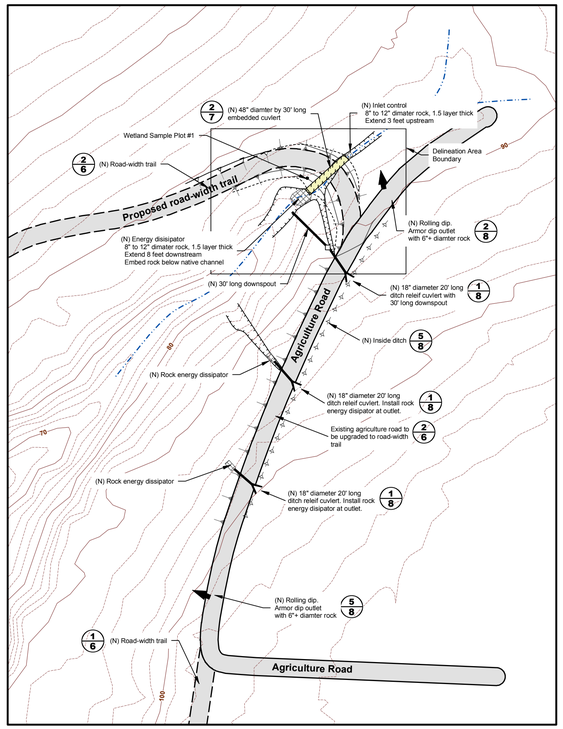
Half Moon Bay, California

Sheet:

AG ACCESS ACROSS TRAIL & RESTROOM DETAILS

DATE: October 11, 2007
DRAWN BY: IE
CHECKED BY: RA

REVISIONS: January 9, 2008



1 RAVINE 1
SCALE: 1" = 40' - 0"

PLANTING LIST

Common Name	Scientific Name	Application Rate PLS (Lbs./acre)	Quantity
Erosion Control – Hydroseed Application (13 acres)			
Blue Wild Rye	*Elymus glaucus*	10	130 Lbs.
California Brome	*Bromus carinatus*	6	78 Lbs.
Cereal Barley	*Hordeum vulgare*	60	780 Lbs.
Wood Fiber Mulch	-	2,000	26,000 Lbs.
Tackifier		100	1,300 Lbs.
Fertilizer, BioSol Mix 7-2-3		500	6,500 Lbs.
Coastal Scrub Revegetation – Hydroseed Application (.10 acres) and Hand Broadcast Application (.085 acres)			
Blue Wild Rye	*Elymus glaucus*	10	1.85 Lbs.
California Brome	*Bromus carinatus*	6	1.11 Lbs.
California Sage	*Artemisia californica*	5	.925 Lbs.
Coyote Brush	*Baccharis pilularis*	4	.740 Lbs
Deerweed	*Lotus scoparius*	4	.740 Lbs
Lizard Tail	*Eriophyllum staechadifolium*	2	.370 Lbs.
Golden Yarrow	*Eriophyllum confertiflorum*	4	.740 Lbs
Bush Lupine	*Lupinus arboreus*	4	.740 Lbs
Sticky Monkey Flower	*Mimulus aurantiacus*	2	.370 Lbs.
Mulch - Wood Fiber Mulch (hydroseed only)	-	2,000	200 Lbs.
Mulch – Weed free Straw (hand broadcast only)	-	2,000	170 Lbs.
Tackifier (hydroseed only)		100	8.5 Lbs.
Fertilizer, BioSol Mix 7-2-3		500	92.5 Lbs.

Common Name	Scientific Name	Spacing (feet)	Quantity	Propagule Size
Staging Area - Container Stock Installation				
California Coffee Berry	*Rhamnus californica*	6	6	1 gallon
Coyote Brush	*Baccharis pilularis*	6	9	1 gallon
Lizard Tail	*Eriophyllum staechadifolium*	6	6	1 gallon
California Beach Aster	*Aster chilensis*	3	6	1 gallon
California Fescue	*Festuca californica*	3	6	1 gallon
Seaside Daisy	*Erigeron glaucus*	3	6	1 gallon
Douglas Iris	*Iris douglasiana*	3	6	1 gallon
Total			**45**	

2 PLANTING LIST

REVEGETATION NOTES

A. GENERAL INFORMATION

1. The Cowell-Purisima Coastal Trail Project includes the following revegetation activities:
   a. Erosion Control Seeding: all areas disturbed by construction.
   b. Coastal Scrub Revegetation: beach access closure areas and coastal bluff screening areas.
   c. Staging Area Revegetation: screening of staging area at Highway 1.
2. Prior to plant material installation, planting locations shall be coordinated with the Project Engineer in regard to the layout of underground utilities, storm drains and other site features. The Landscape Contractor is responsible for verifying all locations of underground utilities prior to the start of work. The Landscape Contractor shall notify the Project Engineer immediately should conflicts arise.
3. The Landscape Contractor shall be responsible for maintaining the site in a safe and clean condition. At the end of each day the site shall be cleaned up and left in a condition that is safe.

B. REVEGETATION

1. The Landscape Contractor shall be responsible for all labor, materials, equipment, tools, accessories, and services to implement the following work items:
   a. Hydroseed application erosion control seed and mulch on all disturbed areas.
   b. Hydroseed application coastal scrub seed and mulch within coastal bluff screening areas.
   c. Hand broadcast coastal scrub seed and mulch within beach access closure areas.
   d. Installation of container stock in designated planting area at staging area, including below ground browse protection. Installation of container stock shall occur after Project Engineer has installed all erosion control measures, yet prior to the rainy season. The Landscape Contractor shall minimize disturbances to erosion control features and shall repair/replace any damaged erosion control features if so requested by the Project Engineer.
   e. Design, installation, and operation of a battery-controlled, fully automatic above ground bubbler/drip irrigation system capable of providing supplemental irrigation to the staging area container stock plantings for a 3 year period following planting. The water source for the irrigation system shall be the cattle watering tank to be installed by others. The Landscape Contractor shall coordinate the connection of the irrigation system with the cattle water system installer. The Landscape Contractor shall submit a shop drawing of the irrigation design, including all proposed components, details and layout, for the Project Engineer's review prior to commencing work. Irrigation system shall include, at a minimum, a back flow preventer, main and lateral lines, bubblers/emitters, and related valve(s) and fixtures.
2. The locations of revegetation elements are for planning purposes only and may be adjusted in the field at the direction of the Project Engineer prior to installation. The Landscape Contractor shall take care to locate plant materials to provide optimum growth conditions.
3. The locations of revegetation elements are for planning purposes only and may be adjusted in the field at the direction of the Project Engineer prior to installation. The Landscape Contractor shall take care to locate plant materials to provide optimum growth conditions. Plant material shall not be installed so as to obstruct drainage patterns or harm existing plant material. The Landscape Contractor shall notify the Project Engineer should conflicts occur.
4. Prior to site work for the installation of the container stock, the Landscape Contractor shall layout plant materials as flagged locations in the field. The Project Engineer shall review and approve all planting locations prior to site work.
5. The Landscape Contractor shall be responsible for supplying all seed and plants of the species and size specified and delivery of the plant material to the site. If feasible, native seed and plants shall be obtained from native plant nurseries/sources that have locally native propagules (i.e., from San Mateo coast region). The Project Engineer shall review and approve all plant materials prior to their installation. The Landscape Contractor shall be responsible for any replacement of plant material if said material is in poor condition and rejected by the Project Engineer. Plants shall comply with recommendations and requirements of ANSI "American Standard for Nursery Stock". Plants shall be healthy and vigorous, well branched, and densely foliated when in leaf. Plants shall be free of disease, insects, pests, eggs, or larvae, and properly "hardened off" before planting. Plants shall have well-developed root systems and not be "pot bound".
6. The Landscape Contractor shall ensure that all plants are true to name, with one plant in each bundle or lot tagged with the botanical name and plant size, in accordance to the standards of practice recommended by the American Association of Nurserymen.
7. All plants shall be the genus and species and sizes shown on the plans. Under no conditions will there be any substitution of plants or sizes, except with the express written consent of the Project Engineer. If the specified plant material is not available, the Landscape Contractor shall secure suitable substitution materials in a timely fashion to meet the project schedule.
8. Existing vegetation that is not within the limits of the project area shall not be cut, removed or otherwise disturbed.

C. CONTAINER STOCK INSTALLATION

1. Container stock plants shall be installed in areas designated for planting, as shown on the Plan. Plants shall be installed by excavating a planting hole large enough to receive the belowground browse protection cage and plant rootball. All planting holes shall be backfilled with native soil and tamped. Plantings shall be watered in such that the root crown is even with the surrounding grade.
2. A 3-inch high hand-packed soil berm shall be constructed along the down slope edge to create a watering basin. If soil is not moist to 8 inches from natural rainfall, the plant shall be watered immediately following installation.
3. After planting is complete, the Landscape Contractor shall furnish and spread organic mulch in the planting basin, as shown on the detail.

D. SEEDING

All seeding shall be carried out in late October-November, after the first wetting rain has moistened the ground. Prior to seeding, planting areas shall be lightly disked or harrowed if necessary to loosen the soil. Proper seed-soil contact is a necessity. Seeds will then be hydroseeded onto the soil (accessible areas) or hand-broadcast (steep slopes where hydroseed application is not feasible).

2. Hydroseed Materials:
   a. Hydroseed equipment with built-in agitation system sufficient to agitate, suspend and homogeneously mix and apply a slurry of seed, mulch, fertilizer, tackifier and water.
   b. Fiber mulch, applied at rate of 2000 lbs./acre.
   c. Organic tackifier, applied at rate of 100 lbs./acre.
   d. Hydroseed seed mix, applied at the rate designated on the planting plan.
3. Hand Broadcast Seed Materials
   a. Hand broadcast seed mix, applied at the rate designated on the planting plan.
   b. Straw mulch, clean and weed-free, applied at a minimum rate of 1.5 tons/acre and crimped/punched in place (2-inch depth). Straw mulch shall be applied within 24 hours of seeding.
4. Seeding Application:
   a. The hydroseeding application will follow a two-step process: 1) Hydro-spray seed and 500 lbs./acre of hydraulic fiber mulch and 2) Apply 1500 lbs./acre hydraulic fiber mulch, fertilizer and tackifier. Insure the uniformity of the hydroseed/mulch application.
   b. Hand broadcast seed onto the soil surface by hand or use of a rotary seed spreader. Apply uniform 2-inch layer of straw mulch and crimp/punch in place with shovel tip to 2-inch depth.
   c. Contractor shall save all seed and fiber mulch bags for the Project Engineer to verify compliance with the drawings and specifications.
   d. The Project Engineer shall be present during the hydroseeding and hand broadcast seeding operations and has final determination if conditions are acceptable for seed application.

E. MAINTENANCE

1. At the staging area, Landscape Contractor shall maintain all container plant materials, plant basins, plant protection devices and implement watering and weeding as necessary to keep the plant materials in a healthy, growing condition and keep the planting areas neat throughout a one-year maintenance period. Contractor shall not prune plant material unless otherwise directed by the Project Engineer.
2. At the staging area, all weeds shall be removed from the container stock planting basins throughout the Contractor's one-year maintenance period. The weeds shall be removed in order to reduce competition for available nutrients, moisture, and sunlight. Weeds shall be hand-pulled. All weed control shall be done in a manner that protects the installed plants. Weeds that grow within the planting basins shall be controlled when they reach a height of 4 inches or cover 20 percent of the planting basin. Weeding shall consist of bagging and removal of weed plants from the project site. No pre-emergent herbicides shall be allowed.

If invasive, non-native plant species establish within any of the revegetation areas, controls shall be implemented to prevent the infestations from developing and to further enhance survival of the seeded/planted species. Invasive, non-native plant species that occur, or may establish on the site, include pampas grass (*Cortederia jubata*), ice plant (*Carpobrotus edulis)*, cape ivy (*Delaireia odorata)*, English ivy (*Hedera helix),* Italian thistle (*Carduus pycnocephalus*), bull thistle (*Cirsium vulgare)* and French broom (*Genista monspessulana*), or others as identified by the Project Engineer. Hand removal shall be utilized to remove and control the occurrence of these species from the revegetation areas. Individuals of these species shall be removed through hand hoeing and hand pulling, with all plant materials bagged and removed from the site. Hand hoeing shall sever the root a minimum of 4 inches below the ground surface. Hand pulling shall removal the root of the plant. Site maintenance visits shall be conducted in spring (March through May) and summer (June through August) of the maintenance year wherein invasive non-native plant species shall be removed. The goal of the maintenance actions will be to remove all invasive plant species from the revegetation area prior to their development of flowering heads.

2. At the staging area, supplemental watering shall be implemented for the container stock plantings. Irrigation shall occur immediately following plant installation and continue, if necessary, until winter rains commence. Thereafter, supplemental irrigation shall be provided between the months of May and September, for a period of up to 3 years. Container stock plantings shall be drip-irrigated no less than three times a month during June, July, August and September of Years 1 and 2, then decreased by 50% in Year 3. Each watering shall be of such a quantity as to provide optimum growth conditions.

3 REVEGETATION NOTES

PLANS PREPARED UNDER THE DIRECTION OF:

_____, J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

LandPeople
landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

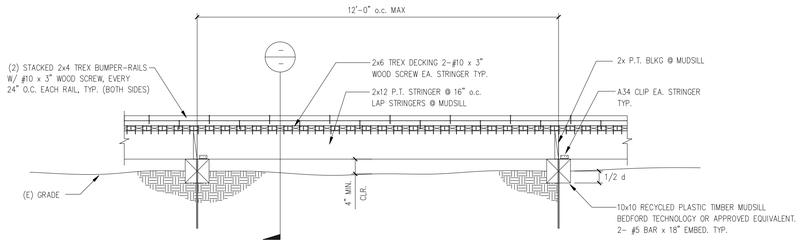
EROSION REPAIRS & PLANTING NOTES

DATE:
January 30, 2004

DRAWN BY:
IE

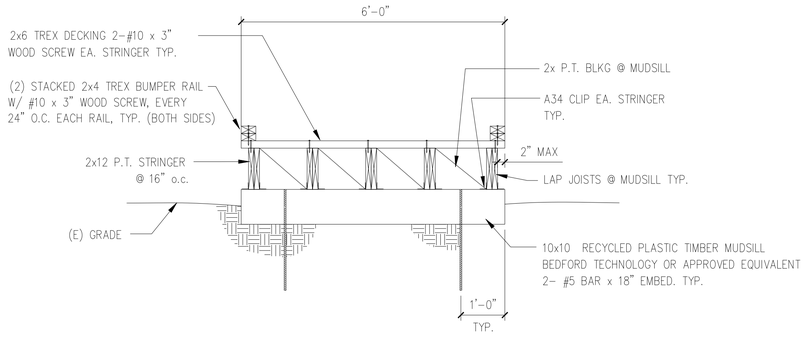
CHECKED BY:
RA

REVISIONS:
January 9, 2008



1 BOARDWALK SECTION

N.T.S.



2 BOARDWALK SECTION

N.T.S.

PLANS PREPARED UNDER THE DIRECTION OF:

J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

LandPeople

landscape architects & planners

511 First Street
Benicia, CA 94510

707.746.1948 phone
707.746.7269 fax

w w w . l a n d p e o p l e . n e t

Client:

California State Coastal Conservancy

222 High Street
Palo Alto, CA 94301

Project:

Cowell-Purisima Coastal Trail

San Mateo County, California

Sheet:

PROPOSED BOARDWALK PLAN & DETAILS

DRAWN BY:
IE

CHECKED BY:
RA

REVISIONS:
January 9, 2008

PLANS PREPARED UNDER THE DIRECTION OF:

J. THOMAS JAKABY, SE/CE

LIC# S 4168, C 42317 Exp. 03/31/08

JAKABY ENGINEERING
COMMERCIAL & RESIDENTIAL STRUCTURES
307 Orchard City Dr. Suite 107
Campbell, CA 95008
(408) 374-6149
Fax (408) 374-5911

LandPeople
landscape architects & planners
511 First Street 707.746.1948 phone
Benicia, CA 94510 707.746.7269 fax
www.landpeople.net

Client:

California State Coastal Conservancy

1330 Broadway, 13th Floor
Oakland, CA 94612-2530

Project:

Cowell-Purisima Coastal Trail

Half Moon Bay, California

Sheet:

EARTHWORK DETAILS

DATE: September 28, 2004

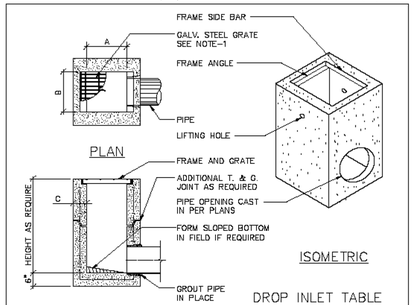
DRAWN BY: IE

CHECKED BY: RA

REVISIONS: January 9, 2008

Santa Rosa Cast Products Company 471 WEST COLLEGE AVE. SANTA ROSA, CA 95401 (707)546-5016

CUSTOM PRECAST CONCRETE DROP INLETS — Dwg. No. — Rev. — Page No.



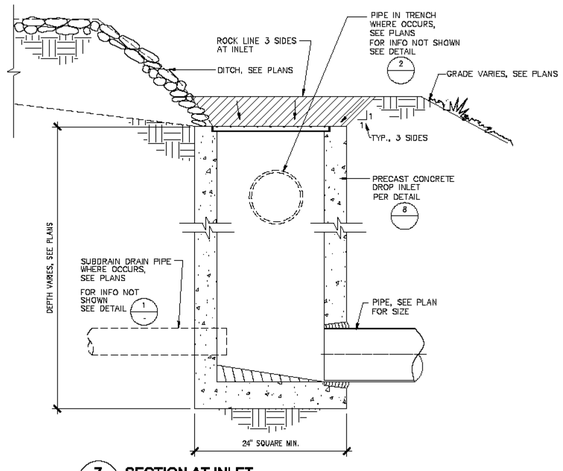
DROP INLET TABLE

MODEL	A IN	A MM	B IN	B MM	C IN	C MM
1K	12	305	12	305	4	102
BK	16	406	16	406	5	127
CK	18	457	18	457	4	102
1K	16	406	24	610	5	127
2K	24	610	24	610	5	127
3K	24	610	30	762	5	127
5K	30	762	30	762	6	152
1L	24	610	36	914	6	152
1M	36	914	36	914	6	152
3L	24	610	48	1219	6	152
3M	36	914	48	1219	6	152
1R	48	1219	48	1219	6	152

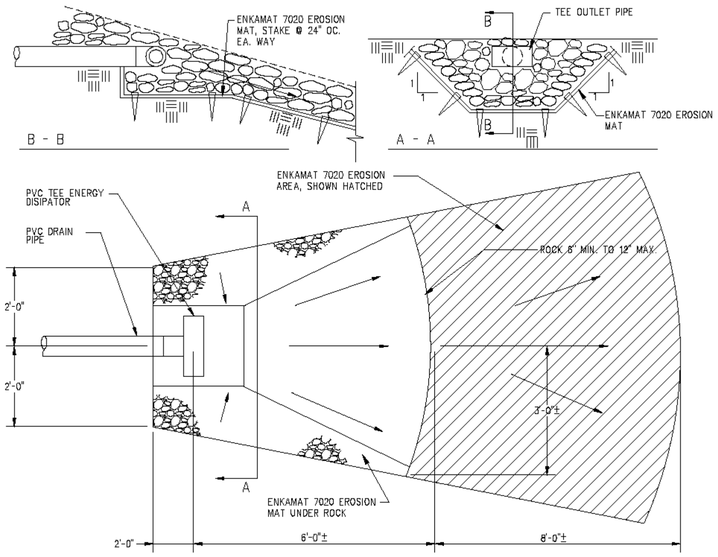
NOTES :

1. FRAME AND GRATES MAY BE SPECIFIED FOR PEDESTRIAN OR H20 TRAFFIC LOADING. ALL GRATES ARE BICYCLE PROOF. OPTION GRATE LOCKING DEVICE AVAILABLE ON REQUEST SEE DRAWING "LOCK" ON PAGE 1-5. CLOSED MESH GRATES OR CAST IRON FRAME AND GRATES ARE AVAILABLE ON REQUEST.
2. FOR SURFACE AND DISCHARGE OPTIONS AVAILABLE SEE DRAWING NO. "DI-SO" PAGE 1-3 AND "DI-DO" PAGE 1-4.
1. FRAME AND GRATES DETAILS SEE PAGES 1-6, 1-7, 1-8, AND 1-9.

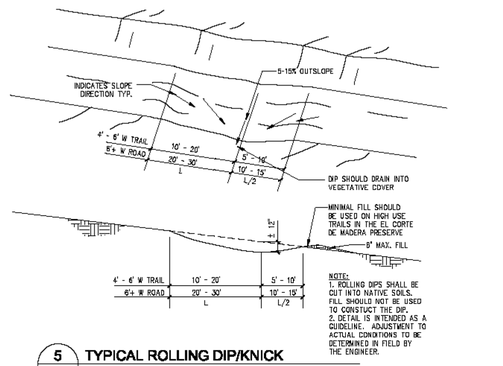
8 **CATCH BASIN DETAIL** N.T.S.



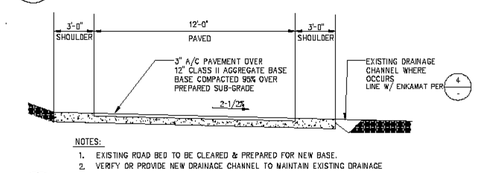
7 **SECTION AT INLET** N.T.S.



4 **ENERGY DISSIPATER** 3/4"=1'-0"

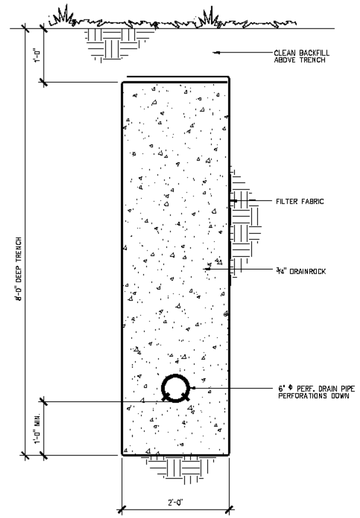


5 **TYPICAL ROLLING DIP/KNICK** N.T.S.

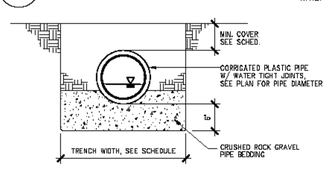


NOTES:
1. EXISTING ROAD BED TO BE CLEARED & PREPARED FOR NEW BASE.
2. VERIFY OR PROVIDE NEW DRAINAGE CHANNEL TO MAINTAIN EXISTING DRAINAGE

6 **ROAD SECTION** N.T.S.

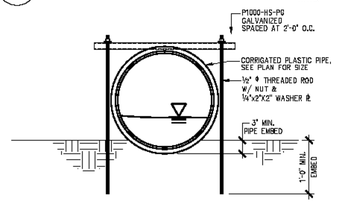


1 **SUBDRAIN DETAIL** N.T.S.



PIPE DIAMETER (IN.)	4-8	10	12	15	18	24	30	36	42	48	54	60
MIN. TRENCH WIDTH (IN.)	12-18	24	26	35	43	56	60	65	84	91	97	103
MIN. COVER (IN.)	6	6	6	7	8	11	14	16	18	21	23	25

2 **PIPE IN TRENCH** N.T.S.



3 **PIPE ON GRADE** N.T.S.